GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: July 17, 2003, 19:44:46 ; Search time 20 Seconds
(without alignments)
53.442 Million cell updates/sec

Title: US-09-980-177A-12
Perfect score: 55
Sequence: 1 ICWGNQLFV 9

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 451899 seqs, 118759770 residues

Total number of hits satisfying chosen parameters: 451899

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published_Applications_AA:*
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13: /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
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17: /cgn2_6/ptodata/1/pubpaa/US60_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	55	100.0	505	11	US-09-162-904A-3	Sequence 3, Appli
2	55	100.0	505	11	US-09-162-904A-4	Sequence 4, Appli
3	55	100.0	505	11	US-09-824-017-2	Sequence 2, Appli
4	55	100.0	505	12	US-09-986-118A-2	Sequence 2, Appli
5	55	100.0	531	12	US-09-991-053-1	Sequence 1, Appli
6	55	100.0	531	15	US-10-301-260A-1	Sequence 1, Appli
7	46	83.6	568	12	US-09-991-053-3	Sequence 3, Appli
8	46	83.6	568	15	US-10-301-260A-3	Sequence 3, Appli
9	43	78.2	503	10	US-09-134-377-2	Sequence 2, Appli
10	43	78.2	503	11	US-09-822-662-2	Sequence 2, Appli
11	40	72.7	794	15	US-10-149-846-2	Sequence 2, Appli
12	38	69.1	147	12	US-09-764-891-4533	Sequence 4533, Ap
13	38	69.1	1907	11	US-09-832-292-39	Sequence 39, Appl
14	37	67.3	416	15	US-10-101-464A-937	Sequence 937, App
15	37	67.3	459	15	US-10-156-761-10059	Sequence 10059, A
16	35	63.6	29	10	US-09-864-761-40403	Sequence 40403, A
17	35	63.6	305	11	US-09-925-300-1194	Sequence 1194, Ap
18	35	63.6	439	15	US-10-176-847-18	Sequence 18, Appl
19	35	63.6	439	15	US-10-177-293-356	Sequence 356, App
20	34	61.8	50	10	US-09-864-761-43404	Sequence 43404, A
21	34	61.8	227	15	US-10-264-104-5	Sequence 5, Appli
22	34	61.8	508	10	US-09-134-377-1	Sequence 1, Appli
23	34	61.8	508	11	US-09-822-662-1	Sequence 1, Appli
24	34	61.8	740	15	US-10-156-761-12925	Sequence 12925, A
25	34	61.8	1021	15	US-10-101-464A-954	Sequence 954, App
26	33	60.0	40	10	US-09-917-340-68	Sequence 68, Appl
27	33	60.0	76	15	US-10-106-698-6344	Sequence 6344, Ap
28	33	60.0	122	15	US-10-156-761-10607	Sequence 10607, A
29	33	60.0	130	15	US-10-106-698-6229	Sequence 6229, Ap
30	33	60.0	186	15	US-10-097-065-341	Sequence 341, App
31	33	60.0	330	15	US-10-146-772-200	Sequence 200, App
32	33	60.0	332	12	US-09-557-796-23	Sequence 23, Appl
33	33	60.0	376	11	US-09-738-626-6506	Sequence 6506, Ap
34	33	60.0	380	15	US-10-156-761-14394	Sequence 14394, A
35	33	60.0	393	10	US-09-836-470B-2	Sequence 2, Appli
36	33	60.0	393	11	US-09-738-626-5280	Sequence 5280, Ap
37	33	60.0	393	12	US-09-494-359-2	Sequence 2, Appli
38	33	60.0	393	15	US-10-284-138-2	Sequence 2, Appli
39	33	60.0	393	15	US-10-284-334-2	Sequence 2, Appli
40	33	60.0	518	12	US-09-881-578-4	Sequence 4, Appli
41	33	60.0	548	10	US-09-765-344-6	Sequence 6, Appli
42	33	60.0	548	10	US-09-765-344-7	Sequence 7, Appli
43	33	60.0	548	15	US-10-288-478-6	Sequence 6, Appli
44	33	60.0	548	15	US-10-288-478-7	Sequence 7, Appli
45	32	58.2	20	10	US-09-841-132-156	Sequence 156, App

ALIGNMENTS

RESULT 1
US-09-162-904A-3
; Sequence 3, Application US/09162904A
; Patent No. US20020168372A1
; GENERAL INFORMATION:
; APPLICANT: Durst, Matthias
; APPLICANT: Gissmann, Lutz
; TITLE OF INVENTION: A DNA SEQUENCE ENCODING A PAPILLOMAVIRUS L1 PROTEIN CAPABLE
; TITLE OF INVENTION: OF EFFICIENTLY FORMING VIRUS-LIKE PARTICLES
; FILE REFERENCE: 8484-068-999
; CURRENT APPLICATION NUMBER: US/09/162,904A
; CURRENT FILING DATE: 1998-09-29
; PRIOR APPLICATION NUMBER: 08/884,168
; PRIOR FILING DATE: 1997-06-27
; PRIOR APPLICATION NUMBER: 08/641,570
; PRIOR FILING DATE: 1996-05-01
; PRIOR APPLICATION NUMBER: 08/902,528
; PRIOR FILING DATE: 1993-07-16
; NUMBER OF SEQ ID NOS: 6
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 3
; LENGTH: 505
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Amino acid sequence of L1 ge
; OTHER INFORMATION: HPV16 clone
US-09-162-904A-3

Query Match 100.0%; Score 55; DB 11; Length 505;
Best Local Similarity 100.0%; Pred. No. 0.18;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ICWGNQLFV 9
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Db 323 ICWGNQLFV 331

RESULT 2

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US-09-162-904A-4
; Sequence 4, Application US/09162904A
; Patent No. US20020168372A1
; GENERAL INFORMATION:
;  APPLICANT: Durst, Matthias
;  APPLICANT:  Gissmann, Lutz
;  TITLE OF INVENTION: A DNA SEQUENCE ENCODING A PAPILLOMAVIRUS L1 PROTEIN CAPABLE
;  TITLE OF INVENTION:  OF EFFICIENTLY FORMING VIRUS-LIKE PARTICLES
;  FILE REFERENCE: 8484-068-999
;  CURRENT APPLICATION NUMBER: US/09/162,904A
;  CURRENT FILING DATE:  1998-09-29
;  PRIOR APPLICATION NUMBER: 08/884,168
;  PRIOR FILING DATE: 1997-06-27
;  PRIOR APPLICATION NUMBER: 08/641,570
;  PRIOR FILING DATE: 1996-05-01
;  PRIOR APPLICATION NUMBER: 08/902,528
;  PRIOR FILING DATE: 1993-07-16
;  NUMBER OF SEQ ID NOS: 6
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 4
;   LENGTH: 505
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence: Amino acid sequence of L1 gen
;   OTHER INFORMATION: HPV16 clone
US-09-162-904A-4

  Query Match           100.0%;  Score 55;  DB 11;  Length 505;
  Best Local Similarity  100.0%;  Pred. No. 0.18;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        323 ICWGNQLFV 331


RESULT 3
US-09-824-017-2
; Sequence 2, Application US/09824017
; Publication No. US20020197668A1
;   GENERAL INFORMATION:
;        APPLICANT: BURGER, Alexander
;                   HALLEK, Michael
;        TITLE OF INVENTION: PAPILLOMA VIRUS CAPSOMERE VACCINE
;                            FORMULATIONS AND METHODS OF USE
;        NUMBER OF SEQUENCES: 28
;        CORRESPONDENCE ADDRESS:
;             ADDRESSEE: FOLEY & LARDNER
;             STREET: 3000 K Street, N.W.
;             CITY: Washington
;             STATE: D.C.
;             COUNTRY: U.S.A.
;             ZIP: 20007-5109
;        COMPUTER READABLE FORM:
;             MEDIUM TYPE: Floppy disk
;             COMPUTER: IBM PC compatible
;             OPERATING SYSTEM: PC-DOS/MS-DOS
;             SOFTWARE: PatentIn Release #1.0, Version #1.30
;        CURRENT APPLICATION DATA:
;             APPLICATION NUMBER: US/09/824,017
;             FILING DATE: 03-Apr-2001
;             CLASSIFICATION: 424
;        PRIOR APPLICATION DATA:
;             APPLICATION NUMBER: 09/026,896
;             FILING DATE: 1998-02-20
;        ATTORNEY/AGENT INFORMATION:
;             NAME: Sandercock, Colin G.
;             REGISTRATION NUMBER: 31,298
;             REFERENCE/DOCKET NUMBER: 37067/102
;        TELECOMMUNICATION INFORMATION:
;             TELEPHONE: (202) 672-5300
;             TELEFAX: (202) 672-5399
;   INFORMATION FOR SEQ ID NO: 2:
;        SEQUENCE CHARACTERISTICS:
;             LENGTH: 505 amino acids
;             TYPE: amino acid
;             TOPOLOGY: linear
;        MOLECULE TYPE: protein
;        SEQUENCE DESCRIPTION: SEQ ID NO: 2:
US-09-824-017-2

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Db        323 ICWGNQLFV 331


RESULT 4
US-09-986-118A-2
; Sequence 2, Application US/09986118A
; Publication No. US20030021806A1
;   GENERAL INFORMATION:
;        APPLICANT: BURGER, Alexander
;                   HALLEK, Michael
;        TITLE OF INVENTION: PAPILLOMA VIRUS CAPSOMERE VACCINE
;                            FORMULATIONS AND METHODS OF USE
;        NUMBER OF SEQUENCES: 28
;        CORRESPONDENCE ADDRESS:
;             ADDRESSEE: FOLEY & LARDNER
;             STREET: 3000 K Street, N.W.
;             CITY: Washington
;             STATE: D.C.
;             COUNTRY: U.S.A.
;             ZIP: 20007-5109
;        COMPUTER READABLE FORM:
;             MEDIUM TYPE: Floppy disk
;             COMPUTER: IBM PC compatible
;             OPERATING SYSTEM: PC-DOS/MS-DOS
;             SOFTWARE: PatentIn Release #1.0, Version #1.30
;        CURRENT APPLICATION DATA:
;             APPLICATION NUMBER: US/09/986,118A
;             FILING DATE: 07-No. US20030021806A1-2001
;             CLASSIFICATION: <Unknown>
;        PRIOR APPLICATION DATA:
;             APPLICATION NUMBER: US 09/026,896
;             FILING DATE: <Unknown>
;        ATTORNEY/AGENT INFORMATION:
;             NAME: Sandercock, Colin G.
;             REGISTRATION NUMBER: 31,298
;             REFERENCE/DOCKET NUMBER: 37067/102
;        TELECOMMUNICATION INFORMATION:
;             TELEPHONE: (202) 672-5300
;             TELEFAX: (202) 672-5399
;   INFORMATION FOR SEQ ID NO: 2:
;        SEQUENCE CHARACTERISTICS:
;             LENGTH: 505 amino acids
;             TYPE: amino acid
;             TOPOLOGY: linear
;        MOLECULE TYPE: protein
;        SEQUENCE DESCRIPTION: SEQ ID NO: 2:
US-09-986-118A-2

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  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
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Db        323 ICWGNQLFV 331


RESULT 5
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US-09-991-053-1
; Sequence 1, Application US/09991053
; Publication No. US20030003532A1
; GENERAL INFORMATION:
;  APPLICANT: Harrison, Stephen
;  APPLICANT:  Chen, Xiaojiang
;  TITLE OF INVENTION: Vaccine compositions and methods for human papilloma
;  TITLE OF INVENTION:  virus
;  FILE REFERENCE: Harvard/Harrison 12687/1120
;  CURRENT APPLICATION NUMBER: US/09/991,053
;  CURRENT FILING DATE:  2001-11-21
;  PRIOR APPLICATION NUMBER: 09/520,781
;  PRIOR FILING DATE: 2000-03-18
;  PRIOR APPLICATION NUMBER: 60/125208
;  PRIOR FILING DATE: 1999-03-18
;  PRIOR APPLICATION NUMBER: 60/148544
;  PRIOR FILING DATE: 1999-08-12
;  NUMBER OF SEQ ID NOS: 4
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 1
;   LENGTH: 531
;   TYPE: PRT
;   ORGANISM: Human papillomavirus type 16
US-09-991-053-1

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Qy          1 ICWGNQLFV 9
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Db        349 ICWGNQLFV 357


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US-10-301-260A-1
; Sequence 1, Application US/10301260A
; Publication No. US20030118609A1
; GENERAL INFORMATION:
;  APPLICANT: Harrison, Stephen
;  APPLICANT:  Chen, Xiaojiang
;  TITLE OF INVENTION: Vaccine compositions and methods for human papilloma
;  TITLE OF INVENTION:  virus
;  FILE REFERENCE: Harvard/Harrison 12687/1123
;  CURRENT APPLICATION NUMBER: US/10/301,260A
;  CURRENT FILING DATE:  2002-11-21
;  PRIOR APPLICATION NUMBER: 09/520,822
;  PRIOR FILING DATE: 2000-03-18
;  PRIOR APPLICATION NUMBER: 60/125208
;  PRIOR FILING DATE: 1999-03-18
;  PRIOR APPLICATION NUMBER: 60/148544
;  PRIOR FILING DATE: 1999-08-12
;  NUMBER OF SEQ ID NOS: 4
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 1
;   LENGTH: 531
;   TYPE: PRT
;   ORGANISM: Human papillomavirus type 16
US-10-301-260A-1

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  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

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              |||||||||
Db        349 ICWGNQLFV 357


RESULT 7
US-09-991-053-3
; Sequence 3, Application US/09991053
; Publication No. US20030003532A1
; GENERAL INFORMATION:
;  APPLICANT: Harrison, Stephen
;  APPLICANT:  Chen, Xiaojiang
;  TITLE OF INVENTION: Vaccine compositions and methods for human papilloma
;  TITLE OF INVENTION:  virus
;  FILE REFERENCE: Harvard/Harrison 12687/1120
;  CURRENT APPLICATION NUMBER: US/09/991,053
;  CURRENT FILING DATE:  2001-11-21
;  PRIOR APPLICATION NUMBER: 09/520,781
;  PRIOR FILING DATE: 2000-03-18
;  PRIOR APPLICATION NUMBER: 60/125208
;  PRIOR FILING DATE: 1999-03-18
;  PRIOR APPLICATION NUMBER: 60/148544
;  PRIOR FILING DATE: 1999-08-12
;  NUMBER OF SEQ ID NOS: 4
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 3
;   LENGTH: 568
;   TYPE: PRT
;   ORGANISM: Human papillomavirus type 18
US-09-991-053-3

  Query Match             83.6%;  Score 46;  DB 12;  Length 568;
  Best Local Similarity   77.8%;  Pred. No. 6.2;
  Matches    7;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              :|| |||||
Db        384 VCWHNQLFV 392


RESULT 8
US-10-301-260A-3
; Sequence 3, Application US/10301260A
; Publication No. US20030118609A1
; GENERAL INFORMATION:
;  APPLICANT: Harrison, Stephen
;  APPLICANT:  Chen, Xiaojiang
;  TITLE OF INVENTION: Vaccine compositions and methods for human papilloma
;  TITLE OF INVENTION:  virus
;  FILE REFERENCE: Harvard/Harrison 12687/1123
;  CURRENT APPLICATION NUMBER: US/10/301,260A
;  CURRENT FILING DATE:  2002-11-21
;  PRIOR APPLICATION NUMBER: 09/520,822
;  PRIOR FILING DATE: 2000-03-18
;  PRIOR APPLICATION NUMBER: 60/125208
;  PRIOR FILING DATE: 1999-03-18
;  PRIOR APPLICATION NUMBER: 60/148544
;  PRIOR FILING DATE: 1999-08-12
;  NUMBER OF SEQ ID NOS: 4
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 3
;   LENGTH: 568
;   TYPE: PRT
;   ORGANISM: Human papillomavirus type 18
US-10-301-260A-3

  Query Match             83.6%;  Score 46;  DB 15;  Length 568;
  Best Local Similarity   77.8%;  Pred. No. 6.2;
  Matches    7;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              :|| |||||
Db        384 VCWHNQLFV 392


RESULT 9
US-09-134-377-2
; Sequence 2, Application US/09134377
; Patent No. US20020015710A1
;  GENERAL INFORMATION:
;    APPLICANT:  SCHLEGEL, C. Richard
;    APPLICANT:  JENSON, A. Bennett
```

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;    APPLICANT:  GHIM, Shin-Je
;    TITLE OF INVENTION:  PAPILLOMAVIRUS VACCINES
;    NUMBER OF SEQUENCES:  2
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  BURNS, DOANE, SWECKER & MATHIS
;      STREET:  P.O. Box 1404
;      CITY:  Alexandria
;      STATE:  Virginia
;      COUNTRY:  United States
;      ZIP:  22313-1404
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/134,377
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/724,281
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Teskin, Robin L.
;      REGISTRATION NUMBER:  35,030
;      REFERENCE/DOCKET NUMBER:  010091-015
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (703) 836-6620
;      TELEFAX:  (703) 836-2021
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  503 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-09-134-377-2

  Query Match             78.2%;  Score 43;  DB 10;  Length 503;
  Best Local Similarity   77.8%;  Pred. No. 17;
  Matches    7;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
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Db        325 IAWGNQLFL 333


RESULT 10
US-09-822-662-2
; Sequence 2, Application US/09822662
; Publication No. US20020197264A1
;   GENERAL INFORMATION:
;        APPLICANT: SCHLEGEL, C. Richard
;                   JENSON, A. Bennett
;                   GHIM, Shin-Je
;        TITLE OF INVENTION: PAPILLOMAVIRUS VACCINES
;        NUMBER OF SEQUENCES: 2
;        CORRESPONDENCE ADDRESS:
;             ADDRESSEE: BURNS, DOANE, SWECKER & MATHIS
;             STREET: P.O. Box 1404
;             CITY: Alexandria
;             STATE: Virginia
;             COUNTRY: United States
;             ZIP: 22313-1404
;        COMPUTER READABLE FORM:
;             MEDIUM TYPE: Floppy disk
;             COMPUTER: IBM PC compatible
;             OPERATING SYSTEM: PC-DOS/MS-DOS
;             SOFTWARE: PatentIn Release #1.0, Version #1.30
;        CURRENT APPLICATION DATA:
;             APPLICATION NUMBER: US/09/822,662
;             FILING DATE: 02-Apr-2001
;             CLASSIFICATION: <Unknown>
;        PRIOR APPLICATION DATA:
;             APPLICATION NUMBER: 08/724,281
;             FILING DATE: <Unknown>
;        ATTORNEY/AGENT INFORMATION:
;             NAME: Teskin, Robin L.
;             REGISTRATION NUMBER: 35,030
;             REFERENCE/DOCKET NUMBER: 010091-015
;        TELECOMMUNICATION INFORMATION:
;             TELEPHONE: (703) 836-6620
;             TELEFAX: (703) 836-2021
;   INFORMATION FOR SEQ ID NO: 2:
;        SEQUENCE CHARACTERISTICS:
;             LENGTH: 503 amino acids
;             TYPE: amino acid
;             STRANDEDNESS: single
;             TOPOLOGY: linear
;        MOLECULE TYPE: protein
;        SEQUENCE DESCRIPTION: SEQ ID NO: 2:
US-09-822-662-2

  Query Match             78.2%;  Score 43;  DB 11;  Length 503;
  Best Local Similarity   77.8%;  Pred. No. 17;
  Matches    7;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
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Db        325 IAWGNQLFL 333


RESULT 11
US-10-149-846-2
; Sequence 2, Application US/10149846
; Publication No. US20030041345A1
; GENERAL INFORMATION:
;  APPLICANT: Bayer Aktiengesellschaft
;  TITLE OF INVENTION: Receptor-like protein kinases from plants
;  FILE REFERENCE: Mo7214
;  CURRENT APPLICATION NUMBER: US/10/149,846
;  CURRENT FILING DATE:  2002-06-17
;  PRIOR APPLICATION NUMBER: DE 199 61 519.5
;  PRIOR FILING DATE: 1999-12-20
;  NUMBER OF SEQ ID NOS: 2
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
;    LENGTH: 794
;    TYPE: PRT
;    ORGANISM: Nicotiana tabacum
US-10-149-846-2

  Query Match             72.7%;  Score 40;  DB 15;  Length 794;
  Best Local Similarity   71.4%;  Pred. No. 80;
  Matches    5;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 CWGNQLF 8
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Db        293 CWGNDIF 299


RESULT 12
US-09-764-891-4533
; Sequence 4533, Application US/09764891
; Publication No. US20030077808A1
; GENERAL INFORMATION:
;  APPLICANT: Rosen et al.
;  TITLE OF INVENTION: Nucleic Acids, Proteins, and Antibodies
;  FILE REFERENCE: PC006
;  CURRENT APPLICATION NUMBER: US/09/764,891
;  CURRENT FILING DATE:  2001-01-17
;  Prior application data removed - consult PALM or file wrapper
;  NUMBER OF SEQ ID NOS: 10231
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 4533
;    LENGTH: 147
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;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-764-891-4533

  Query Match             69.1%;  Score 38;  DB 12;  Length 147;
  Best Local Similarity   83.3%;  Pred. No. 40;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQ 6
              |||||:
Db         17 ICWGNE 22


RESULT 13
US-09-832-292-39
; Sequence 39, Application US/09832292
; Patent No. US20020177205A1
; GENERAL INFORMATION:
;  APPLICANT: Ryazanov, Alexey
;  TITLE OF INVENTION: MAMMALIAN ALPHA-KINASE PROTEINS, NUCLEIC ACIDS AND
;  TITLE OF INVENTION:  DIAGNOSTIC AND THERAPEUTIC USES THEREOF
;  FILE REFERENCE: 601-1-098CIP
;  CURRENT APPLICATION NUMBER: US/09/832,292
;  CURRENT FILING DATE:  2001-04-10
;  PRIOR APPLICATION NUMBER: 09/632,131
;  PRIOR FILING DATE: 2001-08-03
;  NUMBER OF SEQ ID NOS: 45
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 39
;   LENGTH: 1907
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-832-292-39

  Query Match             69.1%;  Score 38;  DB 11;  Length 1907;
  Best Local Similarity   71.4%;  Pred. No. 3.6e+02;
  Matches    5;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 CWGNQLF 8
              |||::||
Db       1599 CWGDKLF 1605


RESULT 14
US-10-101-464A-937
; Sequence 937, Application US/10101464A
; Publication No. US20030046728A1
; GENERAL INFORMATION:
;  APPLICANT: Strabala, Timothy
;  APPLICANT:  Nieuwenhuizen, Nicolaas
;  APPLICANT:  Higgins, Colleen M.
;  TITLE OF INVENTION: Compositions Isolated from Plant Cells
;  TITLE OF INVENTION:  and Their Use in the Modification of Plant Cell Signaling
;  FILE REFERENCE: 11000.1020c2
;  CURRENT APPLICATION NUMBER: US/10/101,464A
;  CURRENT FILING DATE:  2002-03-18
;  PRIOR APPLICATION NUMBER: 09/704,302
;  PRIOR FILING DATE: 2000-11-01
;  PRIOR APPLICATION NUMBER: 09/228,986
;  PRIOR FILING DATE: 1999-01-12
;  PRIOR APPLICATION NUMBER: 60/162,866
;  PRIOR FILING DATE: 1999-11-01
;  PRIOR APPLICATION NUMBER: PCT/US00/00724
;  PRIOR FILING DATE: 2000-01-11
;  NUMBER OF SEQ ID NOS: 989
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 937
;   LENGTH: 416
;   TYPE: PRT
;   ORGANISM: Eucalyptus grandis
US-10-101-464A-937

  Query Match             67.3%;  Score 37;  DB 15;  Length 416;
  Best Local Similarity   71.4%;  Pred. No. 1.4e+02;
  Matches    5;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 CWGNQLF 8
              ||||: |
Db        296 CWGNEHF 302


RESULT 15
US-10-156-761-10059
; Sequence 10059, Application US/10156761
; Publication No. US20030119018A1
; GENERAL INFORMATION:
;  APPLICANT: OMURA, SATOSHI
;  APPLICANT:  IKEDA, HARUO
;  APPLICANT:  ISHIKAWA, JUN
;  APPLICANT:  HORIKAWA, HIROSHI
;  APPLICANT:  SHIBA, TADAYOSHI
;  APPLICANT:  SAKAKI, YOSHIYUKI
;  APPLICANT:  HATTORI, MASAHIRA
;  TITLE OF INVENTION: NOVEL POLYNUCLEOTIDES
;  FILE REFERENCE: 249-262
;  CURRENT APPLICATION NUMBER: US/10/156,761
;  CURRENT FILING DATE:  2002-05-29
;  PRIOR APPLICATION NUMBER: JP 2001-204089
;  PRIOR FILING DATE: 2001-05-30
;  PRIOR APPLICATION NUMBER: JP 2001-272697
;  PRIOR FILING DATE: 2001-08-02
;  NUMBER OF SEQ ID NOS: 15109
; SEQ ID NO 10059
;   LENGTH: 459
;   TYPE: PRT
;   ORGANISM: Streptomyces avermitilis
US-10-156-761-10059

  Query Match             67.3%;  Score 37;  DB 15;  Length 459;
  Best Local Similarity   55.6%;  Pred. No. 1.6e+02;
  Matches    5;  Conservative    2;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              :||| |: |
Db        403 LCWGEQMSV 411


Search completed: July 17, 2003, 19:53:25
Job time : 21 secs
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GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: July 17, 2003, 19:42:32 ; Search time 69 Seconds
(without alignments)
17.381 Million cell updates/sec

Title: US-09-980-177A-12
Perfect score: 55
Sequence: 1 ICWGNQLFV 9

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 908470 seqs, 133250620 residues

Total number of hits satisfying chosen parameters: 908470

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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20: /SIDS2/gcgdata/geneseq/geneseqp-embl/AA1999.DAT:*
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22: /SIDS2/gcgdata/geneseq/geneseqp-embl/AA2001.DAT:*
23: /SIDS2/gcgdata/geneseq/geneseqp-embl/AA2002.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	55	100.0	9	22	AAB46284	HPV type 16 L1 pro
2	55	100.0	20	11	AAR04981	Papilloma virus ty
3	55	100.0	20	23	ABP47258	HPV16 L1 T-cell ep
4	55	100.0	46	14	AAR32070	VLP reactive HPV16
5	55	100.0	497	21	AAY71464	Chimeric biotin-bi
6	55	100.0	499	21	AAY71465	Chimeric biotin-bi
7	55	100.0	500	18	AAW18631	Human HPV6 L1 prot
8	55	100.0	500	18	AAW15113	Human HPV6 L1 prot
9	55	100.0	500	18	AAW15112	Human HPV6 L1 prot
10	55	100.0	500	18	AAW24582	HPV6 L1 protein.
11	55	100.0	500	21	AAY99975	Human papillomavir
12	55	100.0	500	21	AAY99976	Human papillomavir
13	55	100.0	500	21	AAY99977	HPV 6 L1 protein m
14	55	100.0	500	21	AAY99978	HPV 6 L1 protein m
15	55	100.0	500	21	AAY99979	HPV 6 L1 protein m
16	55	100.0	500	21	AAY99980	HPV 6 L1 protein m
17	55	100.0	500	22	AAB98397	Human papillomavir
18	55	100.0	500	22	AAB98406	Human papillomavir
19	55	100.0	501	18	AAW32080	Human HPV6 L1 prot
20	55	100.0	501	18	AAW32081	Human HPV6 L1 prot
21	55	100.0	501	18	AAW32082	Human HPV6 L1 prot
22	55	100.0	501	18	AAW15109	Human HPV6 L1 prot
23	55	100.0	501	18	AAW15110	Human HPV6 L1 prot
24	55	100.0	501	18	AAW15111	Human HPV6 L1 prot
25	55	100.0	501	18	AAW26116	HPV11 mutant L1 pr
26	55	100.0	501	18	AAW10644	HPV6 mutant L1 pro
27	55	100.0	501	18	AAW10645	HPV6 mutant L1 pro
28	55	100.0	501	21	AAY99981	HPV 6 L1 protein m
29	55	100.0	504	22	AAB98436	Human papillomavir
30	55	100.0	505	14	AAR38807	BPV1 L1. Bovine p
31	55	100.0	505	14	AAR38808	HPV1 L1. Human pa
32	55	100.0	505	19	AAW63116	Human papillomavir
33	55	100.0	505	19	AAW54034	HPV16 L1 gene prot
34	55	100.0	505	19	AAW54073	HPV16 L1 gene prot
35	55	100.0	505	19	AAW53486	Human papillomavir
36	55	100.0	505	19	AAW53487	Human papillomavir
37	55	100.0	505	19	AAW39903	HPV16 L1 capsid pr
38	55	100.0	505	19	AAW44142	Human papillomavir
39	55	100.0	505	19	AAW44143	Human papillomavir
40	55	100.0	505	20	AAY08019	Human papilloma vi
41	55	100.0	505	20	AAW96747	Human papillomavir
42	55	100.0	505	20	AAW96748	Human papillomavir
43	55	100.0	505	21	AAY57720	Human papillomavir
44	55	100.0	505	21	AAY53579	HPV16 L1 protein -
45	55	100.0	505	21	AAY53580	HPV16 L1 protein.

ALIGNMENTS

RESULT 1
AAB46284
ID AAB46284 standard; peptide; 9 AA.
XX
AC AAB46284;
XX
DT 04-APR-2001 (first entry)
XX
DE HPV type 16 L1 protein cytotoxic T-cell epitope SEQ ID NO 12.
XX
KW Cytotoxic T cell epitope; L1 protein; antigenic; vaccine; antiviral;
KW antitumor; immune response; tumor.
XX
OS Human papillomavirus.
XX
PN DE19925199-A1.
XX
PD 07-DEC-2000.
XX
PF 01-JUN-1999; 99DE-1025199.
XX
PR 01-JUN-1999; 99DE-1025199.
XX
PA (MEDI-) MEDIGENE AG.
XX
PI Nieland J, Jochmus I;
XX
DR WPI; 2001-072111/09.
XX
PT New T cell epitopes from the papilloma virus L1 protein, useful for
PT detecting or inducing an immune response, e.g. in vaccines -
XX
PS Claim 1; Page 16; 24pp; German.

XX
CC This invention describes novel T cell epitopes (A) of the human
CC papilloma virus L1 protein. The invention also describes (a) compounds
CC (I) containing an (A) provided it is not a natural L1 protein or an
CC exclusively N- or C-terminal deletion variant of natural L1; (b) nucleic
CC acid (II) that encodes (A) or (I); (c) vector, particularly an expression
CC vector, that contains (II); (d) cells that contain, and preferably
CC present, (A); (e) complex of (A) or (I) with at least one additional
CC molecule (III); in vitro detection of T cell activation by a compound
CC containing at least one (A); (f) preparing cells of (d); and (g) test
CC system for in vitro detection of T cells. The products of the invention
CC have antiviral and antitumor activity. (A), also compounds or complexes
CC containing it or nucleic acid or vectors encoding it, is used for
CC detection of an immune response, particularly detecting L1-specific
CC cytotoxic T cells or to determine the L1 protein-specific antigenicity of
CC compounds and complexes that contain (A), and for inducing a protective
CC immune response against papilloma virus and related tumors, particularly
CC as vaccines.
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 55; DB 22; Length 9;
Best Local Similarity 100.0%; Pred. No. 7.8e+05;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ICWGNQLFV 9
|||||||||
Db 1 ICWGNQLFV 9

RESULT 2
AAR04981
ID AAR04981 standard; protein; 20 AA.
XX
AC AAR04981;
XX
DT 03-OCT-1990 (first entry)
XX
DE Papilloma virus type 16 L1 peptide no. 24.
XX
KW Papilloma virus; PV type 16; immunoglobulin; L1; ELISA: cervical cancer.
XX
OS Synthetic.
XX
PN WO9004790-A.
XX
PD 03-MAY-1990.
XX
PF 30-OCT-1989; 89WO-SE00612.
XX
PR 28-OCT-1989; 89SE-0003870.
XX
PA (MEDS-) MEDSCAND AB.
XX
PI Dillner J, Dillner L;
XX
DR WPI; 1990-164122/21.
XX
PT Detecting papilloma virus infections - by identifying specific
PT antibodies against partic. viral proteins or fragments, esp. for
PT rapid diagnosis of cervical cancer.
XX
PS Claim 1; Page 30; 57pp; English.
XX
CC The peptide is one of 66 overlapping peptides which together cover
CC the entire sequences of the L1 and L2 proteins of human PV type 16.
CC The peptide was found to be reactive with Ig Abs in the sera of
CC patients with type 16 cervical cancer. It can therefore be used in
CC immunoassays for the diagnosis of PV-associated neoplasia, esp.
CC carcinoma of the cervi uteri, and to assess the risk of development
CC of such a carcinoma.
CC See also AAR04958-R05023.
XX
SQ Sequence 20 AA;

Query Match 100.0%; Score 55; DB 11; Length 20;
Best Local Similarity 100.0%; Pred. No. 0.0074;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ICWGNQLFV 9
|||||||||
Db 3 ICWGNQLFV 11

RESULT 3
ABP47258
ID ABP47258 standard; Peptide; 20 AA.
XX
AC ABP47258;
XX
DT 15-AUG-2002 (first entry)
XX
DE HPV16 L1 T-cell epitope peptide P30 SEQ ID NO 30.
XX
KW HPV; human papillomavirus; T-cell epitope; L1; E7; virucide; cytostatic;
KW vaccine; immune response.
XX
OS Human Papillomavirus 16.
XX
PN WO200244384-A2.
XX
PD 06-JUN-2002.
XX
PF 30-NOV-2001; 2001WO-EP14037.
XX
PR 01-DEC-2000; 2000DE-1059631.
XX
PA (MEDI-) MEDIGENE AG.
XX
PI Nieland J, Kaufmann A;
XX
DR WPI; 2002-471833/50.
XX
PT New T cell epitopes derived from human papilloma virus, useful for
PT detecting immune activation and in a vaccine against papilloma virus
XX
PS Example 1; Page 36; 126pp; German.
XX
CC The invention relates to T-cell epitopes (I) derived from human
CC papillomavirus (HPV). (I) have virucide and cytostatic activity and are
CC able to induce a cytotoxic T cell response or mediate T helper cell
CC function. (I) and also compounds (II) containing them, vectors that
CC express (I) or (II), cells that contain (I) or (II) and/or complexes
CC of (I) or (II) with another compound, are used to detect or induce an
CC immune response, for diagnosis or therapy, particularly in vaccines for
CC control of human papilloma virus infection. The present sequence is that
CC of a HPV T-cell epitope of the invention.
XX
SQ Sequence 20 AA;

Query Match 100.0%; Score 55; DB 23; Length 20;
Best Local Similarity 100.0%; Pred. No. 0.0074;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ICWGNQLFV 9
|||||||||
Db 4 ICWGNQLFV 12

RESULT 4
AAR32070
ID AAR32070 standard; Protein; 46 AA.
XX
AC AAR32070;
XX
DT 07-JUN-1993 (first entry)

```
XX
DE   VLP reactive HPV16 L1 epitope 340-385.
XX
KW   B; epitope; human; papilloma; virus; HPV-16; L1; antisera; ELISA; A1;
KW   antigenic index; flexibility; accessibility; hydrophilicitity; mice;
KW   immunise; HPV16 capsid; pamilloma virus like particle; VLP; diagnosis;
KW   vaccine.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Peptide         24..28
FT                   /note= "Epitope 363-367"
XX
PN   WO9302184-A.
XX
PD   04-FEB-1993.
XX
PF   20-JUL-1992;    92WO-AU00364.
XX
PR   19-JUL-1991;    91AU-0007322.
XX
PA   (CLSC-) CLS LTD.
PA   (UYQU ) UNIV QUEENSLAND.
XX
PI   Frazer I,  Zhou J;
XX
DR   WPI; 1993-058783/07.
XX
PT   Prodn. of papilloma virus-like particles - which contain L1 and
PT   L2 proteins, useful as vaccine against papilloma virus infections
PT   and in diagnosis
XX
PS   Claim 39; Table 1; 63pp; English.
XX
CC   The sequences given in AAR32054-73 are B epitopes which are derived
CC   from the human papilloma virus-16 (HPV-16) L1 protein.  These
CC   epitopes were isolated by screening antisera from immunised animals
CC   agianst a set of overlapping HPV-16 L1 peptides by ELISA.  Possible
CC   antigenic regions were identified using an antigenic index (A1) on the
CC   basis of chain flexibility, high accessibility and a high degree of
CC   hydrophilicity.  A region with an A1 value of over 1.5 was regarded as
CC   a predicted B epitope.  Five regions identified in this manner were
CC   found to be within the 22 peptides to which major reactivity was
CC   seen with antisera from mice immunised with synthetic HPV16 capsids.
CC   These epitopes can be used to in the production of pamilloma virus
CC   like particles (VLPs) for use as diagnostic agents and as components
CC   of vaccines for use with papilloma virus infections.
XX
SQ   Sequence   46 AA;

  Query Match            100.0%;  Score 55;  DB 14;  Length 46;
  Best Local Similarity  100.0%;  Pred. No. 0.017;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db         10 ICWGNQLFV 18


RESULT 5
AAY71464
ID   AAY71464 standard; Protein; 497 AA.
XX
AC   AAY71464;
XX
DT   04-OCT-2000  (first entry)
XX
DE   Chimeric biotin-binding human papillomavirus mutant L1 protein-168.
XX
KW   Human papillomavirus; HPV; L1 protein; L2 protein; biotin; chimeric;
KW   cytostatic; antiviral; gene therapy; vaccine; capsomere; VLP;
KW   virus-like particle; viral antigen; tumour; cytotoxin; cytokine; IL;
KW   interleukin; chemotherapeutic agent; radioactive agent; mutant; mutein.
XX
OS   Chimeric - Human papillomavirus 16.
OS   Chimeric - Unidentified.
XX
FH   Key             Location/Qualifiers
FT   Region          1..483
FT                   /label= HPV_16_mutant_L1_protein
FT   Binding-site    484..497
FT                   /label= Biotin_binding_peptide
FT   Region          484..486
FT                   /note= "(Gly)3 hinge"
XX
PN   WO200031128-A1.
XX
PD   02-JUN-2000.
XX
PF   22-NOV-1999;    99WO-US27555.
XX
PR   23-NOV-1998;    98US-0109510.
PR   06-OCT-1999;    99US-0413611.
XX
PA   (LOYO ) UNIV LOYOLA CHICAGO.
XX
PI   Mueller M,  Kast WM,  Nieland JD,  Velders MP;
XX
DR   WPI; 2000-400041/34.
DR   N-PSDB; AAD01237.
XX
PT   Chimeric protein comprising a papillomavirus L1 or L2 protein and a
PT   biotin-binding polypeptide, useful for delivering substances such as
PT   proteins, nucleic acids and lipids into cells, particularly
PT   papillomavirus infected cells -
XX
PS   Example 1; Page 18-20; 27pp; English.
XX
CC   The patent discloses a chimeric protein comprising papillomavirus L1 or
CC   L2 protein and a biotin-binding polypeptide. Capsomere, papillomavirus
CC   or virus-like particle (VLP) comprising the chimeric protein is used
CC   for delivering a wide variety of biotinylated compounds e.g. proteins,
CC   nucleic acids and lipids into cells, particularly papillomavirus infected
CC   cells. The chimeric protein may also be used as a vaccine when the
CC   biotinylated substance is a viral antigen e.g. papillomavirus E2 or E7
CC   proteins. It may be useful for treating tumours or other papillomavirus-
CC   related lesions when the substance is a cytotoxin, chemotherapeutic
CC   agent, radioactive agent, or a gene encoding a cytokine or interleukin.
CC   The present sequence is a chimeric protein 168 consisting
CC   of human papillomavirus 16 (HPV-16) mutant L1 protein fused to a biotin-
CC   binding peptide at the C-terminus. The L1 protein was derived from
CC   the wild-type sequence by deleting the amino acid Cys428. The
CC   modification was done to prevent assembly of VLPs while allowing the
CC   production of capsomeres at high efficiencies.
XX
SQ   Sequence   497 AA;

  Query Match            100.0%;  Score 55;  DB 21;  Length 497;
  Best Local Similarity  100.0%;  Pred. No. 0.18;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        323 ICWGNQLFV 331


RESULT 6
AAY71465
ID   AAY71465 standard; Protein; 499 AA.
XX
AC   AAY71465;
XX
DT   04-OCT-2000  (first entry)
XX
DE   Chimeric biotin-binding human papillomavirus mutant L1 protein-169.
```

```
XX
KW   Human papillomavirus; HPV; L1 protein; L2 protein; biotin; chimeric;
KW   cytostatic; antiviral; gene therapy; vaccine; capsomere; VLP;
KW   virus-like particle; viral antigen; tumour; cytotoxin; cytokine; IL;
KW   interleukin; chemotherapeutic agent; radioactive agent; mutant; mutein.
XX
OS   Chimeric - Human papillomavirus 16.
OS   Chimeric - Unidentified.
XX
FH   Key             Location/Qualifiers
FT   Region          1..483
FT                   /label= HPV_16_mutant_L1_protein
FT   Binding-site    484..499
FT                   /label= Biotin_binding_domain
FT   Region          484..486
FT                   /note= "(Gly)3 hinge"
XX
PN   WO200031128-A1.
XX
PD   02-JUN-2000.
XX
PF   22-NOV-1999;   99WO-US27555.
XX
PR   23-NOV-1998;   98US-0109510.
PR   06-OCT-1999;   99US-0413611.
XX
PA   (LOYO ) UNIV LOYOLA CHICAGO.
XX
PI   Mueller M,  Kast WM,  Nieland JD,  Velders MP;
XX
DR   WPI; 2000-400041/34.
DR   N-PSDB; AAD01238.
XX
PT   Chimeric protein comprising a papillomavirus L1 or L2 protein and a
PT   biotin-binding polypeptide, useful for delivering substances such as
PT   proteins, nucleic acids and lipids into cells, particularly
PT   papillomavirus infected cells -
XX
PS   Example 1; Page 23-24; 27pp; English.
XX
CC   The patent discloses a chimeric protein comprising papillomavirus L1 or
CC   L2 protein and a biotin-binding polypeptide. Capsomere, papillomavirus
CC   or virus-like particle (VLP) comprising the chimeric protein is used
CC   for delivering a wide variety of biotinylated compounds e.g. proteins,
CC   nucleic acids and lipids into cells, particularly papillomavirus infected
CC   cells. The chimeric protein may also be used as a vaccine when the
CC   biotinylated substance is a viral antigen e.g. papillomavirus E2 or E7
CC   proteins. It may be useful for treating tumours or other papillomavirus-
CC   related lesions when the substance is a cytotoxin, chemotherapeutic
CC   agent, radioactive agent, or a gene encoding a cytokine or interleukin.
CC   The present sequence is a chimeric protein 169 consisting
CC   of human papillomavirus 16 (HPV-16) mutant L1 protein fused to a biotin-
CC   binding peptide at the C-terminus. The L1 protein was derived from
CC   the wild-type sequence by deleting the amino acid Cys428. The
CC   modification was done to prevent assembly of VLPs while allowing the
CC   production of capsomeres at high efficiencies.
XX
SQ   Sequence   499 AA;

  Query Match             100.0%;  Score 55;  DB 21;  Length 499;
  Best Local Similarity   100.0%;  Pred. No. 0.18;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        323 ICWGNQLFV 331


RESULT 7
AAW18631
ID   AAW18631 standard; protein; 500 AA.
XX
AC   AAW18631;
XX
DT   30-JAN-1998  (first entry)
XX
DE   Human HPV6 L1 protein (wild-type).
XX
KW   Human papillomavirus 11; HPV11; L1 protein; late gene 1;
KW   virus capsid protein; non-malignant condylomata;
KW   genital wart; laryngeal papilloma; HPV6; virus-like particle; VLP;
KW   vaccine; epitope; neutralising antibodies; immunity.
XX
OS   Human papillomavirus.
XX
PN   WO9718301-A1.
XX
PD   22-MAY-1997.
XX
PF   12-NOV-1996;   96WO-US18322.
XX
PR   07-MAR-1996;   96GB-0004812.
PR   15-NOV-1995;   95US-0006788.
XX
PA   (MERI ) MERCK & CO INC.
XX
PI   Benincasa D,  Ludmerer S,  Mark GE;
XX
DR   WPI; 1997-289277/26.
XX
PT   Synthetic virus-like particles from human papillomavirus type 6 and
PT   11 mutant constructs  - useful for characterising recombinant
PT   virus-like particles, e.g. manufactured HPV11 VLPs for use in
PT   vaccines
XX
PS   Claim 1; Fig 1; 33pp; English.
XX
CC   This is the amino acid sequence of human papillomavirus 6 (HPV6)
CC   corresponding to the L1 protein (late gene 1 coding for virus capsid
CC   proteins). HPV6 is a causative agent of non-malignant condylomata of
CC   genital or respiratory mucosa (genital warts) and laryngeal papilloma
CC   and is structurally similar to the HPV11 amino acid sequence. Virus-like
CC   particles (VLP's) can be generated from recombinant HPV6 and HPV11 which
CC   are useful in characterising human papillomavirus infection. Due to the
CC   structural similarity of HPV6 and HPV11, HPV6 derivative VLPs can be used
CC   in an assay to characterise recombinant HPV11 VLPs in order to verify
CC   that manufactured HPV11 VLPs, e.g. a HPV11 vaccine, contain the epitope
CC   for neutralisation by antibodies. This will allow the large scale
CC   production of papillomavirus proteins with the immunity-conferring
CC   properties of native proteins.
XX
SQ   Sequence   500 AA;

  Query Match             100.0%;  Score 55;  DB 18;  Length 500;
  Best Local Similarity   100.0%;  Pred. No. 0.18;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        319 ICWGNQLFV 327


RESULT 8
AAW15113
ID   AAW15113 standard; protein; 500 AA.
XX
AC   AAW15113;
XX
DT   02-FEB-1998  (first entry)
XX
DE   Human HPV6 L1 protein construct HPV6:4 (variant 2).
XX
KW   Human papillomavirus 11; HPV11; L1 protein; late gene 1;
KW   virus capsid protein; non-malignant condylomata;
KW   genital wart; laryngeal papilloma; HPV6; virus-like particle; VLP;
KW   vaccine; epitope; neutralising antibodies; immunity; mutant.
```

```
XX
OS   Synthetic.
OS   Human papillomavirus.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 131
FT                   /label= S131G
FT                   /note= "Wild-type Ser is replaced by Gly."
XX
PN   WO9718301-A1.
XX
PD   22-MAY-1997.
XX
PF   12-NOV-1996;   96WO-US18322.
XX
PR   07-MAR-1996;   96GB-0004812.
PR   15-NOV-1995;   95US-0006788.
XX
PA   (MERI ) MERCK & CO INC.
XX
PI   Benincasa D,  Ludmerer S,  Mark GE;
XX
DR   WPI; 1997-289277/26.
XX
PT   Synthetic virus-like particles from human papillomavirus type 6 and
PT   11 mutant constructs  - useful for characterising recombinant
PT   virus-like particles, e.g. manufactured HPV11 VLPs for use in
PT   vaccines
XX
PS   Claim 1; Page -; 33pp; English.
XX
CC   This amino acid sequence represents a variant of the human
CC   papillomavirus 6 (HPV6) corresponding to the L1 protein (late gene 1
CC   coding for virus capsid proteins) and is used to generate a synthetic
CC   virus-like particle (VLP). Altering the HPV6 L1 sequence at residue 131
CC   facilitates binding by HPV11 specific neutralising monoclonal
CC   antibodies. This sequence is a variant of the mutant HPV6:4 (see
CC   AAW15109) and was generated by back-mutation in order to carry out
CC   binding assays to determine the minimal epitope for binding neutralising
CC   antibodies. HPV6 and HPV11 are causative agents of non-malignant
CC   condylomata of genital or respiratory mucosa (genital warts) and
CC   laryngeal papilloma and is structurally similar to the HPV11 amino acid
CC   sequence. Virus-like particles can be generated from recombinant HPV6 and
CC   HPV11 which are useful in characterising human papillomavirus infection.
CC   Due to the structural similarity of HPV6 and HPV11, HPV6 derivative VLPs
CC   can be used in an assay to characterise recombinant HPV11 VLPs in order
CC   to verify that manufactured HPV11 VLPs, e.g. a HPV11 vaccine, contain the
CC   epitope for neutralisation by antibodies. This will allow the large
CC   scale production of papillomavirus proteins with the immunity-conferring
CC   properties of native proteins.
CC   Note: The present sequence does not appear in the specification; it
CC   has been made by modifying the native HPV6 L1 protein sequence which
CC   is provided in Figure 1.
XX
SQ   Sequence   500 AA;

  Query Match             100.0%;  Score 55;  DB 18;  Length 500;
  Best Local Similarity   100.0%;  Pred. No. 0.18;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        319 ICWGNQLFV 327


RESULT 9
AAW15112
ID   AAW15112 standard; protein; 500 AA.
XX
AC   AAW15112;
XX
DT   02-FEB-1998  (first entry)
XX
DE   Human HPV6 L1 protein construct HPV6:4 (variant 1).
XX
KW   Human papillomavirus 11; HPV11; L1 protein; late gene 1;
KW   virus capsid protein; causative agent; non-malignant condylomata;
KW   genital wart; laryngeal papilloma; HPV6; virus-like particle; VLP;
KW   vaccine; epitope; neutralising antibodies; immunity; mutant.
XX
OS   Synthetic.
OS   Human papillomavirus.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 131
FT                   /label= S131G
FT                   /note= "Wild-type Ser is replaced by Gly."
FT   Misc-difference 245
FT                   /label= F245Y
FT                   /note= "Wild-type Phe is replaced by Tyr."
FT   Misc-difference 277
FT                   /label= G277N
FT                   /note= "Wild-type Gly is replaced by Asn."
XX
PN   WO9718301-A1.
XX
PD   22-MAY-1997.
XX
PF   12-NOV-1996;   96WO-US18322.
XX
PR   07-MAR-1996;   96GB-0004812.
PR   15-NOV-1995;   95US-0006788.
XX
PA   (MERI ) MERCK & CO INC.
XX
PI   Benincasa D,  Ludmerer S,  Mark GE;
XX
DR   WPI; 1997-289277/26.
XX
PT   Synthetic virus-like particles from human papillomavirus type 6 and
PT   11 mutant constructs  - useful for characterising recombinant
PT   virus-like particles, e.g. manufactured HPV11 VLPs for use in
PT   vaccines
XX
PS   Claim 1; Page -; 33pp; English.
XX
CC   This amino acid sequence represents a variant of the human
CC   papillomavirus 6 (HPV6) corresponding to the L1 protein (late gene 1
CC   coding for virus capsid proteins) and is used to generate a synthetic
CC   virus-like particle (VLP). By altering the HPV6 L1 sequence at residues
CC   131, 245 and 277 the sequence resembles that of the HPV11 L1 sequence
CC   and facilitates binding by HPV11 specific neutralising monoclonal
CC   antibodies. This sequence is a variant of the mutant HPV6:4 (see
CC   AAW15109) and was generated by back-mutation in order to carry out
CC   binding assays to determine the minimal epitope for binding neutralising
CC   antibodies. HPV6 and HPV11 are causative agents of non-malignant
CC   condylomata of genital or respiratory mucosa (genital warts) and
CC   laryngeal papilloma and is structurally similar to the HPV11 amino acid
CC   sequence. Virus-like particles (VLP's) can be generated from recombinant
CC   HPV6 and HPV11 which are useful in characterising human papillomavirus
CC   infection. Due to the structural similarity of HPV6 and HPV11, HPV6
CC   derivative VLPs can be used in an assay to characterise recombinant HPV11
CC   VLPs in order to verify that manufactured HPV11 VLPs, e.g. a HPV11
CC   vaccine, contain the epitope for neutralisation by antibodies. This will
CC   allow the large scale production of papillomavirus proteins with the
CC   immunity-conferring properties of native proteins.
CC   Note: The present sequence does not appear in the specification; it
CC   has been made by modifying the native HPV6 L1 protein sequence which
CC   is provided in Figure 1.
XX
SQ   Sequence   500 AA;

  Query Match             100.0%;  Score 55;  DB 18;  Length 500;
  Best Local Similarity   100.0%;  Pred. No. 0.18;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;
```

```
Qy          1 ICWGNQLFV 9
              |||||||||
Db        319 ICWGNQLFV 327


RESULT 10
AAW24582
ID   AAW24582 standard; protein; 500 AA.
XX
AC   AAW24582;
XX
DT   12-NOV-1997  (first entry)
XX
DE   HPV6 L1 protein.
XX
KW   L1 protein; HPV; human papillomavirus; HPV6; HPV11; virus-like particle;
KW   nonmalignant condyloma; respiratory mucosa; laryngeal papillomas;
KW   neutralising antibody; major capsid protein; vaccine; therapy.
XX
OS   Human papillomavirus.
XX
PN   WO9704076-A1.
XX
PD   06-FEB-1997.
XX
PF   15-JUL-1996;   96WO-US11739.
XX
PR   22-FEB-1996;   96GB-0003758.
PR   19-JUL-1995;   95US-0001504.
XX
PA   (MERI ) MERCK & CO INC.
XX
PI   Benincasa D,  Hollis GF,  Ludmerer S,  Mark GE;
XX
DR   WPI; 1997-132620/12.
XX
PT   Synthetic virus like particles based on human papilloma virus 6 and
PT   11 mutants - used to characterise recombinant HPV11 particles,
PT   intended for vaccines, to ensure presence of neutralising epitope
XX
PS   Disclosure; Fig 3; 29pp; English.
XX
CC   This sequence represents the human papillomavirus (HPV) 6 L1 protein.
CC   Mutations of this sequence, and of the HPV11 L1 protein sequence (see
CC   AAW24581), are used in the synthetic virus-like particles (VLP) of the
CC   invention. In humans, HPV cause distinct diseases. HPV6, and HPV11 are
CC   among the HPV strains that cause nonmalignant condylomata of the genital
CC   or respiratory mucosa. HPV6 and HPV11 are the causative agents for more
CC   than 90% of all condyloma and laryngeal papillomas. The production of
CC   neutralising antibodies (Ab) to papillomavirus antigens prevents
CC   infection with the homologous virus. The L1 protein is the major capsid
CC   protein of HPV. It is thought that the L2 protein is internal to the L1
CC   protein. The L1 open reading frame is highly conserved among different
CC   papillomaviruses. The specified HPV11 mutants have lost the ability to
CC   generate neutralising Ab. The HPV6 VLP contain the neutralising epitope
CC   of HPV11, and are used to confirm that a batch of HPV11 VLP, intended
CC   for vaccine use, retains the neutralising epitope. The HPV6 VLP can also
CC   be used to test whether polyclonal antisera raised against HPV11 VLP, or
CC   human samples, have neutralising activity. They may also be used to
CC   raise Ab against the HPV11 neutralising epitope.
XX
SQ   Sequence   500 AA;

  Query Match             100.0%;  Score 55;  DB 18;  Length 500;
  Best Local Similarity   100.0%;  Pred. No. 0.18;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        319 ICWGNQLFV 327


RESULT 11
AAY99975
ID   AAY99975 standard; protein; 500 AA.
XX
AC   AAY99975;
XX
DT   07-NOV-2000  (first entry)
XX
DE   Human papillomavirus 6 L1 protein mutant F49Y/R53K.
XX
KW   HPV6; HPV11; mutant; mutein; antiviral; vaccine; L1 protein.
XX
OS   Human papillomavirus.
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 49
FT                   /note= "Wild-type Phe substituted by Tyr"
FT   Misc-difference 53
FT                   /note= "Wild-type Arg substituted by Lys"
XX
PN   WO200035479-A1.
XX
PD   22-JUN-2000.
XX
PF   14-DEC-1999;   99WO-US29577.
XX
PR   17-DEC-1998;   98US-0112610.
XX
PA   (MERI ) MERCK & CO INC.
XX
PI   Jansen KU,  Ling JC,  Ludmerer SW,  McClements WL,  Wang X;
XX
DR   WPI; 2000-431502/37.
XX
PT   Recombinant papillomavirus L1 protein, useful in an assay for
PT   distinguishing between human papillomavirus (HPV)6 and HPV11
PT   antibodies, and in a vaccine  -
XX
PS   Example 4; Page -; 28pp; English.
XX
CC   The present invention relates to human papillomavirus (HPV) L1 protein
CC   mutants. The present sequence is the HPV 6 L1 protein containing a
CC   substitution mutation. The mutants were created to define the amino acid
CC   residues that confer antigenic type-specificity on HPV subtypes 6 and
CC   11. The mutants may be used in an assay to distinguish between the
CC   presence of HPV6 and HPV11 antibodies in a sample. The mutant proteins
CC   can also be used in vaccines. This assay overcomes the failure of
CC   previous assays to distinguish the high identity between HPV6 and HPV
CC   11.
CC   Note: The present sequence is not shown in the specification but is
CC   derived from the HPV wild type L1 protein.
XX
SQ   Sequence   500 AA;

  Query Match             100.0%;  Score 55;  DB 21;  Length 500;
  Best Local Similarity   100.0%;  Pred. No. 0.18;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        319 ICWGNQLFV 327


RESULT 12
AAY99976
ID   AAY99976 standard; protein; 500 AA.
XX
AC   AAY99976;
XX
DT   07-NOV-2000  (first entry)
XX
DE   Human papillomavirus 6 L1 protein mutant T345S/T346K/S348A.
XX
```

```
KW   HPV6; HPV11; mutant; mutein; antiviral; vaccine; L1 protein.
XX
OS   Human papillomavirus.
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 345
FT                   /note= "Wild-type Thr substituted by Ser"
FT   Misc-difference 346
FT                   /note= "Wild-type Thr substituted by Lys"
FT   Misc-difference 348
FT                   /note= "Wild-type Ser substituted by Ala"
XX
PN   WO200035479-A1.
XX
PD   22-JUN-2000.
XX
PF   14-DEC-1999;   99WO-US29577.
XX
PR   17-DEC-1998;   98US-0112610.
XX
PA   (MERI ) MERCK & CO INC.
XX
PI   Jansen KU,  Ling JC,  Ludmerer SW,  McClements WL,  Wang X;
XX
DR   WPI; 2000-431502/37.
XX
PT   Recombinant papillomavirus L1 protein, useful in an assay for
PT   distinguishing between human papillomavirus (HPV)6 and HPV11
PT   antibodies, and in a vaccine  -
XX
PS   Claim 6; Page -; 28pp; English.
XX
CC   The present invention relates to human papillomavirus (HPV) L1 protein
CC   mutants. The present sequence is the HPV 6 L1 protein containing a
CC   substitution mutation. The mutants were created to define the amino acid
CC   residues that confer antigenic type-specificity on HPV subtypes 6 and
CC   11. The mutants may be used in an assay to distinguish between the
CC   presence of HPV6 and HPV11 antibodies in a sample. The mutant proteins
CC   can also be used in vaccines. This assay overcomes the failure of
CC   previous assays to distinguish the high identity between HPV6 and HPV
CC   11.
CC   Note: The present sequence is not shown in the specification but is
CC   derived from the HPV wild type L1 protein.
XX
SQ   Sequence   500 AA;

  Query Match             100.0%;  Score 55;  DB 21;  Length 500;
  Best Local Similarity   100.0%;  Pred. No. 0.18;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        319 ICWGNQLFV 327


RESULT 13
AAY99977
ID   AAY99977 standard; protein; 500 AA.
XX
AC   AAY99977;
XX
DT   07-NOV-2000  (first entry)
XX
DE   HPV 6 L1 protein mutant E262T/T270D/S276G/G277N/T280S/G283A/N289H.
XX
KW   HPV6; HPV11; mutant; mutein; antiviral; vaccine; L1 protein.
XX
OS   Human papillomavirus.
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 262
FT                   /note= "Wild-type Glu substituted by Thr"
FT   Misc-difference 270
FT                   /note= "Wild-type Thr substituted by Asp"
FT   Misc-difference 276
FT                   /note= "Wild-type Ser substituted by Gly"
FT   Misc-difference 277
FT                   /note= "Wild-type Gly substituted by Asn"
FT   Misc-difference 280
FT                   /note= "Wild-type Thr substituted by Ser"
FT   Misc-difference 283
FT                   /note= "Wild-type Gly substituted by Ala"
FT   Misc-difference 289
FT                   /note= "Wild-type Asn substituted by His"
XX
PN   WO200035479-A1.
XX
PD   22-JUN-2000.
XX
PF   14-DEC-1999;   99WO-US29577.
XX
PR   17-DEC-1998;   98US-0112610.
XX
PA   (MERI ) MERCK & CO INC.
XX
PI   Jansen KU,  Ling JC,  Ludmerer SW,  McClements WL,  Wang X;
XX
DR   WPI; 2000-431502/37.
XX
PT   Recombinant papillomavirus L1 protein, useful in an assay for
PT   distinguishing between human papillomavirus (HPV)6 and HPV11
PT   antibodies, and in a vaccine  -
XX
PS   Claim 6; Page -; 28pp; English.
XX
CC   The present invention relates to human papillomavirus (HPV) L1 protein
CC   mutants. The present sequence is the HPV 6 L1 protein containing a
CC   substitution mutation. The mutants were created to define the amino acid
CC   residues that confer antigenic type-specificity on HPV subtypes 6 and
CC   11. The mutants may be used in an assay to distinguish between the
CC   presence of HPV6 and HPV11 antibodies in a sample. The mutant proteins
CC   can also be used in vaccines. This assay overcomes the failure of
CC   previous assays to distinguish the high identity between HPV6 and HPV
CC   11.
CC   Note: The present sequence is not shown in the specification but is
CC   derived from the HPV wild type L1 protein.
XX
SQ   Sequence   500 AA;

  Query Match             100.0%;  Score 55;  DB 21;  Length 500;
  Best Local Similarity   100.0%;  Pred. No. 0.18;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        319 ICWGNQLFV 327


RESULT 14
AAY99978
ID   AAY99978 standard; protein; 500 AA.
XX
AC   AAY99978;
XX
DT   07-NOV-2000  (first entry)
XX
DE   HPV 6 L1 protein mutant F49Y/R53K/A54V/K169T/T172S/P175S/A178N.
XX
KW   HPV6; HPV11; mutant; mutein; antiviral; vaccine; L1 protein.
XX
OS   Human papillomavirus.
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
```

```
FT   Misc-difference 49
FT                   /note= "Wild-type Phe substituted by Tyr"
FT   Misc-difference 53
FT                   /note= "Wild-type Arg substituted by Lys"
FT   Misc-difference 54
FT                   /note= "Wild-type Ala substituted by Val"
FT   Misc-difference 169
FT                   /note= "Wild-type Lys substituted by Thr"
FT   Misc-difference 172
FT                   /note= "Wild-type Thr substituted by Ser"
FT   Misc-difference 175
FT                   /note= "Wild-type Pro substituted by Ser"
FT   Misc-difference 178
FT                   /note= "Wild-type Ala substituted by Asn"
XX
PN   WO200035479-A1.
XX
PD   22-JUN-2000.
XX
PF   14-DEC-1999;   99WO-US29577.
XX
PR   17-DEC-1998;   98US-0112610.
XX
PA   (MERI ) MERCK & CO INC.
XX
PI   Jansen KU,  Ling JC,  Ludmerer SW,  McClements WL,  Wang X;
XX
DR   WPI; 2000-431502/37.
XX
PT   Recombinant papillomavirus L1 protein, useful in an assay for
PT   distinguishing between human papillomavirus (HPV)6 and HPV11
PT   antibodies, and in a vaccine  -
XX
PS   Example 8; Page -; 28pp; English.
XX
CC   The present invention relates to human papillomavirus (HPV) L1 protein
CC   mutants. The present sequence is the HPV 6 L1 protein containing a
CC   substitution mutation. The mutants were created to define the amino acid
CC   residues that confer antigenic type-specificity on HPV subtypes 6 and
CC   11. The mutants may be used in an assay to distinguish between the
CC   presence of HPV6 and HPV11 antibodies in a sample. The mutant proteins
CC   can also be used in vaccines. This assay overcomes the failure of
CC   previous assays to distinguish the high identity between HPV6 and HPV
CC   11.
CC   Note: The present sequence is not shown in the specification but is
CC   derived from the HPV wild type L1 protein.
XX
SQ   Sequence   500 AA;

  Query Match             100.0%;  Score 55;  DB 21;  Length 500;
  Best Local Similarity   100.0%;  Pred. No. 0.18;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        319 ICWGNQLFV 327


RESULT 15
AAY99979
ID   AAY99979 standard; protein; 500 AA.
XX
AC   AAY99979;
XX
DT   07-NOV-2000  (first entry)
XX
DE   HPV 6 L1 protein mutant K169T/T172S/P175S/A178N.
XX
KW   HPV6; HPV11; mutant; mutein; antiviral; vaccine; L1 protein.
XX
OS   Human papillomavirus.
OS   Synthetic.
XX
```

```
FH   Key             Location/Qualifiers
FT   Misc-difference 169
FT                   /note= "Wild-type Lys substituted by Thr"
FT   Misc-difference 172
FT                   /note= "Wild-type Thr substituted by Ser"
FT   Misc-difference 175
FT                   /note= "Wild-type Pro substituted by Ser"
FT   Misc-difference 178
FT                   /note= "Wild-type Ala substituted by Asn"
XX
PN   WO200035479-A1.
XX
PD   22-JUN-2000.
XX
PF   14-DEC-1999;   99WO-US29577.
XX
PR   17-DEC-1998;   98US-0112610.
XX
PA   (MERI ) MERCK & CO INC.
XX
PI   Jansen KU,  Ling JC,  Ludmerer SW,  McClements WL,  Wang X;
XX
DR   WPI; 2000-431502/37.
XX
PT   Recombinant papillomavirus L1 protein, useful in an assay for
PT   distinguishing between human papillomavirus (HPV)6 and HPV11
PT   antibodies, and in a vaccine  -
XX
PS   Claim 6; Page -; 28pp; English.
XX
CC   The present invention relates to human papillomavirus (HPV) L1 protein
CC   mutants. The present sequence is the HPV 6 L1 protein containing a
CC   substitution mutation. The mutants were created to define the amino acid
CC   residues that confer antigenic type-specificity on HPV subtypes 6 and
CC   11. The mutants may be used in an assay to distinguish between the
CC   presence of HPV6 and HPV11 antibodies in a sample. The mutant proteins
CC   can also be used in vaccines. This assay overcomes the failure of
CC   previous assays to distinguish the high identity between HPV6 and HPV
CC   11.
CC   Note: The present sequence is not shown in the specification but is
CC   derived from the HPV wild type L1 protein.
XX
SQ   Sequence   500 AA;

  Query Match             100.0%;  Score 55;  DB 21;  Length 500;
  Best Local Similarity   100.0%;  Pred. No. 0.18;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        319 ICWGNQLFV 327


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GenCore version 5.1.6

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Searched: 262574 seqs, 29422922 residues

Total number of hits satisfying chosen parameters: 262574

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Post-processing: Minimum Match 0%
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Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
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3	55	100.0	497	4	US-09-413-611A-6	Sequence 6, Appli
4	55	100.0	499	4	US-09-413-611A-8	Sequence 8, Appli
5	55	100.0	500	2	US-08-987-519-2	Sequence 2, Appli
6	55	100.0	505	4	US-08-944-368A-2	Sequence 2, Appli
7	55	100.0	505	4	US-09-820-764-2	Sequence 2, Appli
8	55	100.0	532	3	US-08-737-336-6	Sequence 6, Appli
9	50	90.9	500	2	US-08-987-519-1	Sequence 1, Appli
10	49	89.1	501	2	US-08-987-519-3	Sequence 3, Appli
11	47	85.5	507	2	US-08-409-122-2	Sequence 2, Appli
12	47	85.5	507	2	US-08-408-669-2	Sequence 2, Appli
13	43	78.2	503	2	US-08-724-281-2	Sequence 2, Appli
14	35	63.6	322	2	US-08-622-354-3	Sequence 3, Appli
15	34	61.8	508	2	US-08-724-281-1	Sequence 1, Appli
16	33	60.0	37	1	US-08-212-236-10	Sequence 10, Appl
17	33	60.0	40	1	US-08-033-873-10	Sequence 10, Appl
18	33	60.0	40	2	US-08-356-832-10	Sequence 10, Appl
19	33	60.0	40	4	US-08-988-705-10	Sequence 10, Appl
20	33	60.0	58	1	US-08-566-800A-34	Sequence 34, Appl
21	33	60.0	58	1	US-08-566-800A-50	Sequence 50, Appl
22	33	60.0	58	2	US-08-398-010A-49	Sequence 49, Appl
23	33	60.0	58	2	US-08-398-010A-65	Sequence 65, Appl
24	33	60.0	58	2	US-08-398-628A-49	Sequence 49, Appl
25	33	60.0	58	2	US-08-398-628A-65	Sequence 65, Appl
26	33	60.0	58	2	US-08-932-589-34	Sequence 34, Appl
27	33	60.0	58	2	US-08-932-589-50	Sequence 50, Appl
28	33	60.0	58	2	US-08-399-115A-49	Sequence 49, Appl
29	33	60.0	58	2	US-08-399-115A-65	Sequence 65, Appl
30	33	60.0	332	4	US-09-172-952-23	Sequence 23, Appl
31	33	60.0	352	4	US-09-413-814-24	Sequence 24, Appl
32	33	60.0	366	4	US-09-134-001C-4799	Sequence 4799, Ap
33	33	60.0	393	4	US-09-629-616-2	Sequence 2, Appli
34	32	58.2	20	1	US-08-416-950-7	Sequence 7, Appli
35	32	58.2	20	1	US-08-464-235-18	Sequence 18, Appl
36	32	58.2	20	2	US-08-468-279-35	Sequence 35, Appl
37	32	58.2	20	2	US-08-469-830-7	Sequence 7, Appli
38	32	58.2	20	4	US-08-463-486-18	Sequence 18, Appl
39	32	58.2	20	4	US-08-464-496-11	Sequence 11, Appl
40	32	58.2	20	4	US-08-197-484-101	Sequence 101, App
41	32	58.2	20	4	US-09-556-877-156	Sequence 156, App
42	32	58.2	20	4	US-09-620-412C-156	Sequence 156, App
43	32	58.2	20	5	PCT-US92-07218-11	Sequence 11, Appl
44	32	58.2	20	5	PCT-US94-02195-18	Sequence 18, Appl
45	32	58.2	20	5	PCT-US95-02121-101	Sequence 101, App

ALIGNMENTS

```
RESULT 1
US-07-678-974D-24
; Sequence 24, Application US/07678974D
; Patent No. 5629146
;  GENERAL INFORMATION:
;    APPLICANT:  DILLNER, JOAKIM
;    APPLICANT:  DILLNER, LENA
;    TITLE OF INVENTION:  METHOD FOR DETECTION OF HUMAN PAPILLOMAVIRUS
;    TITLE OF INVENTION:
;    NUMBER OF SEQUENCES:  67
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  BERMAN & AISENBERG
;      STREET:  1730 RHODE ISLAND AVENUE, N.W.,
;      CITY:  WASHINGTON
;      STATE:  D.C.
;      COUNTRY:  U.S.A.
;      ZIP:  20036-3186
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/678,974D
;      FILING DATE:  25-JUN-1991
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  AISENBERG, Irwin M.
;      REGISTRATION NUMBER:  19,007
;      REFERENCE/DOCKET NUMBER:  SG19171
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  202-293-1404
;      TELEFAX:  202-872-0493
;      TELEX:  440 069 AIS UI
;  INFORMATION FOR SEQ ID NO:  24:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  20 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
US-07-678-974D-24

  Query Match           100.0%;  Score 55;  DB 1;  Length 20;
  Best Local Similarity  100.0%;  Pred. No. 0.0029;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db          3 ICWGNQLFV 11
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RESULT 2
US-08-945-168-29
; Sequence 29, Application US/08945168
; Patent No. 5989548
;  GENERAL INFORMATION:
;    APPLICANT:  DILLNER, JOAKIM
;    TITLE OF INVENTION:  PEPTIDE-BASED VACCINE AGAINST PAPILLOMA
;    TITLE OF INVENTION:  VIRUS
;    NUMBER OF SEQUENCES:  117
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
;      ADDRESSEE:  P.C.
;      STREET:  1755 SOUTH JEFFERSON DAVIS HIGHWAY, SUITE 400
;      CITY:  ARLINGTON
;      STATE:  VA
;      COUNTRY:  USA
;      ZIP:  22202
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/945,168
;      FILING DATE:  18-DEC-1997
;      CLASSIFICATION:  424
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/SE96/00533
;      FILING DATE:  23-APR-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  SE 9501512-9
;      FILING DATE:  24-APR-1995
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  OBLON, NORMAN F.
;      REGISTRATION NUMBER:  24,618
;      REFERENCE/DOCKET NUMBER:  7752-0002-0 PCT
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  703-413-3000
;      TELEFAX:  703-413-2220
;  INFORMATION FOR SEQ ID NO:  29:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  20 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-945-168-29

  Query Match             100.0%;  Score 55;  DB 2;  Length 20;
  Best Local Similarity   100.0%;  Pred. No. 0.0029;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db          3 ICWGNQLFV 11


RESULT 3
US-09-413-611A-6
; Sequence 6, Application US/09413611A
; Patent No. 6380364
; GENERAL INFORMATION:
;  APPLICANT:  Mueller, Martin
;  APPLICANT:  Kast, Wijbe
;  APPLICANT:  Nieland, John
;  APPLICANT:  Velders, Markwin
;  TITLE OF INVENTION:  Chimeric Biotin-Binding Papillomavirus Protein
;  FILE REFERENCE:  202325
;  CURRENT APPLICATION NUMBER: US/09/413,611A
;  CURRENT FILING DATE:  1999-10-06
;  PRIOR APPLICATION NUMBER:  US 60/109,510
;  PRIOR FILING DATE:  1998-11-23
;  NUMBER OF SEQ ID NOS:  8
;  SOFTWARE:  PatentIn Ver. 2.0
; SEQ ID NO 6
;   LENGTH: 497
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence:biotin-binding
;   OTHER INFORMATION: papillomavirus protein 168
US-09-413-611A-6

  Query Match             100.0%;  Score 55;  DB 4;  Length 497;
  Best Local Similarity   100.0%;  Pred. No. 0.072;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        323 ICWGNQLFV 331


RESULT 4
US-09-413-611A-8
; Sequence 8, Application US/09413611A
; Patent No. 6380364
; GENERAL INFORMATION:
;  APPLICANT:  Mueller, Martin
;  APPLICANT:  Kast, Wijbe
;  APPLICANT:  Nieland, John
;  APPLICANT:  Velders, Markwin
;  TITLE OF INVENTION:  Chimeric Biotin-Binding Papillomavirus Protein
;  FILE REFERENCE:  202325
;  CURRENT APPLICATION NUMBER: US/09/413,611A
;  CURRENT FILING DATE:  1999-10-06
;  PRIOR APPLICATION NUMBER:  US 60/109,510
;  PRIOR FILING DATE:  1998-11-23
;  NUMBER OF SEQ ID NOS:  8
;  SOFTWARE:  PatentIn Ver. 2.0
; SEQ ID NO 8
;   LENGTH: 499
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence:biotin-binding
;   OTHER INFORMATION: papillomavirus protein 169
US-09-413-611A-8

  Query Match             100.0%;  Score 55;  DB 4;  Length 499;
  Best Local Similarity   100.0%;  Pred. No. 0.072;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        323 ICWGNQLFV 331


RESULT 5
US-08-987-519-2
; Sequence 2, Application US/08987519
; Patent No. 5952216
; GENERAL INFORMATION:
;  APPLICANT: Ludmerer, Steven
;  TITLE OF INVENTION: Synthetic HPV16 Virus-Like Particles
;  FILE REFERENCE: 19853
;  CURRENT APPLICATION NUMBER: US/08/987,519
;  CURRENT FILING DATE: 1997-12-09
;  NUMBER OF SEQ ID NOS: 3
;  SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 2
;   LENGTH: 500
;   TYPE: PRT
;   ORGANISM: Human Papillomavirus
US-08-987-519-2

  Query Match             100.0%;  Score 55;  DB 2;  Length 500;
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  Best Local Similarity   100.0%;  Pred. No. 0.072;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        319 ICWGNQLFV 327


RESULT 6
US-08-944-368A-2
; Sequence 2, Application US/08944368A
; Patent No. 6228368
;  GENERAL INFORMATION:
;    APPLICANT:  Gissman, et al.
;    TITLE OF INVENTION:  Papilloma Virus Capsomere Vaccine
;    TITLE OF INVENTION:  Formulations and Methods of Use
;    NUMBER OF SEQUENCES:  28
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Marshall, O'Toole, Gerstein, Murray &
;      ADDRESSEE:  Borun
;      STREET:  233 South Wacker Drive, 6300 Sears Tower
;      CITY:  Chicago
;      STATE:  Illinois
;      COUNTRY:  United States of America
;      ZIP:  60606-6402
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/944,368A
;      FILING DATE:
;      CLASSIFICATION:  424
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Williams Jr., Joseph A.
;      REGISTRATION NUMBER:  38,659
;      REFERENCE/DOCKET NUMBER:  27013/34028
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  312-474-6300
;      TELEFAX:  312-474-0448
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  505 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-944-368A-2

  Query Match             100.0%;  Score 55;  DB 4;  Length 505;
  Best Local Similarity   100.0%;  Pred. No. 0.073;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        323 ICWGNQLFV 331


RESULT 7
US-09-820-764-2
; Sequence 2, Application US/09820764
; Patent No. 6352696
;   GENERAL INFORMATION:
;        APPLICANT: BURGER, Alexander
;                   HALLEK, Michael
;        TITLE OF INVENTION: PAPILLOMA VIRUS CAPSOMERE VACCINE
;                            FORMULATIONS AND METHODS OF USE
;        NUMBER OF SEQUENCES: 28
;        CORRESPONDENCE ADDRESS:
;             ADDRESSEE: FOLEY & LARDNER
;             STREET: 3000 K Street, N.W.
;             CITY: Washington
;             STATE: D.C.
;             COUNTRY: U.S.A.
;             ZIP: 20007-5109
;        COMPUTER READABLE FORM:
;             MEDIUM TYPE: Floppy disk
;             COMPUTER: IBM PC compatible
;             OPERATING SYSTEM: PC-DOS/MS-DOS
;             SOFTWARE: PatentIn Release #1.0, Version #1.30
;        CURRENT APPLICATION DATA:
;             APPLICATION NUMBER: US/09/820,764
;             FILING DATE: 30-Mar-2001
;             CLASSIFICATION: <Unknown>
;        PRIOR APPLICATION DATA:
;             APPLICATION NUMBER: US 09/026,896
;             FILING DATE: 20-FEB-1998
;        ATTORNEY/AGENT INFORMATION:
;             NAME: Sandercock, Colin G.
;             REGISTRATION NUMBER: 31,298
;             REFERENCE/DOCKET NUMBER: 37067/102
;        TELECOMMUNICATION INFORMATION:
;             TELEPHONE: (202) 672-5300
;             TELEFAX: (202) 672-5399
;   INFORMATION FOR SEQ ID NO: 2:
;        SEQUENCE CHARACTERISTICS:
;             LENGTH: 505 amino acids
;             TYPE: amino acid
;             TOPOLOGY: linear
;        MOLECULE TYPE: protein
;        SEQUENCE DESCRIPTION: SEQ ID NO: 2:
US-09-820-764-2

  Query Match             100.0%;  Score 55;  DB 4;  Length 505;
  Best Local Similarity   100.0%;  Pred. No. 0.073;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        323 ICWGNQLFV 331


RESULT 8
US-08-737-336-6
; Sequence 6, Application US/08737336
; Patent No. 6013262
;  GENERAL INFORMATION:
;    APPLICANT:  FRAZER, Ian
;    APPLICANT:  ZHOU, Jian
;    TITLE OF INVENTION:  RECOMBINANT PAPILLOMA VIRUS L1
;    NUMBER OF SEQUENCES:  6
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Foley & Lardner
;      STREET:  3000 K Street, N.W., Suite 500
;      CITY:  Washington
;      STATE:  D.C.
;      COUNTRY:  USA
;      ZIP:  20007-5109
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/737,336
;      FILING DATE:  16-JAN-1997
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  WO PCT/AU95/00292
;      FILING DATE:  17-MAY-1995
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  AU PM 5667
;      FILING DATE:  17-MAY-1994
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  SAXE, Bernhard D.
;      REGISTRATION NUMBER:  28,665
```

```
;      REFERENCE/DOCKET NUMBER:  65064/118
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (202)672-5300
;      TELEFAX:  (202)672-5399
;      TELEX:  904136
;  INFORMATION FOR SEQ ID NO:  6:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  532 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-737-336-6

  Query Match             100.0%;  Score 55;  DB 3;  Length 532;
  Best Local Similarity   100.0%;  Pred. No. 0.077;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        351 ICWGNQLFV 359


RESULT 9
US-08-987-519-1
; Sequence 1, Application US/08987519
; Patent No. 5952216
; GENERAL INFORMATION:
;  APPLICANT: Ludmerer, Steven
;  TITLE OF INVENTION: Synthetic HPV16 Virus-Like Particles
;  FILE REFERENCE: 19853
;  CURRENT APPLICATION NUMBER: US/08/987,519
;  CURRENT FILING DATE: 1997-12-09
;  NUMBER OF SEQ ID NOS: 3
;  SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 1
;   LENGTH: 500
;   TYPE: PRT
;   ORGANISM: Human Papillomavirus
US-08-987-519-1

  Query Match             90.9%;  Score 50;  DB 2;  Length 500;
  Best Local Similarity   88.9%;  Pred. No. 0.51;
  Matches    8;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              ||||| |||
Db        320 ICWGNHLFV 328


RESULT 10
US-08-987-519-3
; Sequence 3, Application US/08987519
; Patent No. 5952216
; GENERAL INFORMATION:
;  APPLICANT: Ludmerer, Steven
;  TITLE OF INVENTION: Synthetic HPV16 Virus-Like Particles
;  FILE REFERENCE: 19853
;  CURRENT APPLICATION NUMBER: US/08/987,519
;  CURRENT FILING DATE: 1997-12-09
;  NUMBER OF SEQ ID NOS: 3
;  SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 3
;   LENGTH: 501
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   NAME/KEY: SIMILAR
;   LOCATION: (0)...(0)
;   OTHER INFORMATION: Consensus Sequence
;   OTHER INFORMATION: At 28 X = K or T
;   OTHER INFORMATION: At 49 X = Y or F
;   OTHER INFORMATION: At 53 X = K or R
;   OTHER INFORMATION: At 54 X = V or A
;   OTHER INFORMATION: At 119 X = L or F
;   OTHER INFORMATION: At 131 X = G or S
;   OTHER INFORMATION: At 132 X = Y or No. 5952216Residue
;   OTHER INFORMATION: At 170 X = T or K
;   OTHER INFORMATION: At 173 X = S or T
;   OTHER INFORMATION: At 176 X = S or P
;   OTHER INFORMATION: At 179 X = N or A
;   OTHER INFORMATION: At 219 X = L or I
;   OTHER INFORMATION: At 225 X = V or T
;   OTHER INFORMATION: At 246 X = Y or F
;   OTHER INFORMATION: At 263 X = T or E
;   OTHER INFORMATION: At 271 X = D or T
;   OTHER INFORMATION: At 273 X = L or I
;   OTHER INFORMATION: At 274 X = V or I
;   OTHER INFORMATION: At 277 X = G or S
;   OTHER INFORMATION: At 278 X = N or G
;   OTHER INFORMATION: At 281 X = S or T
;   OTHER INFORMATION: At 284 X = A or G
;   OTHER INFORMATION: At 290 X = H or N
;   OTHER INFORMATION: At 325 X = H or Q
;   OTHER INFORMATION: At 346 X = S or T
;   OTHER INFORMATION: At 347 X = K or T
;   OTHER INFORMATION: At 348 X = A or S
;   OTHER INFORMATION: At 366 X = F or Y
;   OTHER INFORMATION: At 434 X = Q or P
;   OTHER INFORMATION: At 439 X = D or N
;   OTHER INFORMATION: At 440 X = M or L
;   OTHER INFORMATION: At 458 X = F or Y
;   OTHER INFORMATION: At 474 X = T or S
;   OTHER INFORMATION: At 476 X = A or I
;   OTHER INFORMATION: At 480 X = I or V
;   OTHER INFORMATION: At 488 X = P or A
;   OTHER INFORMATION: At 490 X = T or A
;   OTHER INFORMATION: At 497 X = T or A
;   OTHER INFORMATION: At 501 X = K or R
US-08-987-519-3

  Query Match             89.1%;  Score 49;  DB 2;  Length 501;
  Best Local Similarity   88.9%;  Pred. No. 0.75;
  Matches    8;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              ||||| |||
Db        320 ICWGNXLFV 328


RESULT 11
US-08-409-122-2
; Sequence 2, Application US/08409122
; Patent No. 5820870
;  GENERAL INFORMATION:
;    APPLICANT:  JOYCE, JAMES G.
;    APPLICANT:  GEORGE, HUGH A.
;    APPLICANT:  HOFMANN, KATHRYN J.
;    APPLICANT:  JANSEN, KATHRIN U.
;    APPLICANT:  NEEPER, MICHAEL P.
;    TITLE OF INVENTION:  DNA ENCODING HUMAN PAPILLOMAVIRUS TYPE 18 VACCINE
;    NUMBER OF SEQUENCES:  16
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  CHRISTINE E. CARTY - MERCK & CO., INC.
;      STREET:  126 EAST LINCOLN AVENUE - P.O. BOX 2000
;      CITY:  RAHWAY
;      STATE:  NJ
;      COUNTRY:  US
;      ZIP:  07065-0907
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette
;      COMPUTER:  IBM Compatible
;      OPERATING SYSTEM:  DOS
;      SOFTWARE:  FastSEQ Version 1.5
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/409,122
;      FILING DATE:
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;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/408,669
;      FILING DATE:  22-MAR-1995
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  CARTY, CHRISTINE E
;      REGISTRATION NUMBER:  36,099
;      REFERENCE/DOCKET NUMBER:  19425
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  908-594-6734
;      TELEFAX:  908-594-4720
;      TELEX:
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  507 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
;    HYPOTHETICAL:  NO
;    ANTI-SENSE:  NO
;    FRAGMENT TYPE:  N-terminal
;    ORIGINAL SOURCE:
US-08-409-122-2

  Query Match             85.5%;  Score 47;  DB 2;  Length 507;
  Best Local Similarity   88.9%;  Pred. No. 1.7;
  Matches    8;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              ||| |||||
Db        323 ICWHNQLFV 331


RESULT 12
US-08-408-669-2
; Sequence 2, Application US/08408669
; Patent No. 5840306
;  GENERAL INFORMATION:
;    APPLICANT:  HOFMANN, KATHRYN J.
;    APPLICANT:  JANSEN, KATHRIN U.
;    APPLICANT:  NEEPER, MICHAEL P.
;    TITLE OF INVENTION:  DNA ENCODING HUMAN PAPILLOMAVIRUS TYPE 18
;    NUMBER OF SEQUENCES:  16
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  CHRISTINE E. CARTY - MERCK & CO., INC.
;      STREET:  126 EAST LINCOLN AVENUE - P.O. BOX 2000
;      CITY:  RAHWAY
;      STATE:  NJ
;      COUNTRY:  US
;      ZIP:  07065-0907
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette
;      COMPUTER:  IBM Compatible
;      OPERATING SYSTEM:  DOS
;      SOFTWARE:  FastSEQ Version 1.5
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/408,669
;      FILING DATE:  22-MAR-1995
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  CARTY, CHRISTINE E
;      REGISTRATION NUMBER:  36,099
;      REFERENCE/DOCKET NUMBER:  19424
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  908-594-6734
;      TELEFAX:  908-594-4720
;      TELEX:
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  507 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
;    HYPOTHETICAL:  NO
;    ANTI-SENSE:  NO
;    FRAGMENT TYPE:  N-terminal
;    ORIGINAL SOURCE:
US-08-408-669-2

  Query Match             85.5%;  Score 47;  DB 2;  Length 507;
  Best Local Similarity   88.9%;  Pred. No. 1.7;
  Matches    8;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              ||| |||||
Db        323 ICWHNQLFV 331


RESULT 13
US-08-724-281-2
; Sequence 2, Application US/08724281
; Patent No. 5874089
;  GENERAL INFORMATION:
;    APPLICANT:  SCHLEGEL, C. Richard
;    APPLICANT:  JENSON, A. Bennett
;    APPLICANT:  GHIM, Shin-Je
;    TITLE OF INVENTION:  PAPILLOMAVIRUS VACCINES
;    NUMBER OF SEQUENCES:  2
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  BURNS, DOANE, SWECKER & MATHIS
;      STREET:  P.O. Box 1404
;      CITY:  Alexandria
;      STATE:  Virginia
;      COUNTRY:  United States
;      ZIP:  22313-1404
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/724,281
;      FILING DATE:  01-OCT-1996
;      CLASSIFICATION:  424
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/004,691
;      FILING DATE:  02-OCT-1995
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Teskin, Robin L.
;      REGISTRATION NUMBER:  35,030
;      REFERENCE/DOCKET NUMBER:  010091-015
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (703) 836-6620
;      TELEFAX:  (703) 836-2021
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  503 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-724-281-2

  Query Match             78.2%;  Score 43;  DB 2;  Length 503;
  Best Local Similarity   77.8%;  Pred. No. 7.8;
  Matches    7;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              | ||||||:
Db        325 IAWGNQLFL 333
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RESULT 14
US-08-622-354-3
; Sequence 3, Application US/08622354
; Patent No. 5827518
;  GENERAL INFORMATION:
;    APPLICANT:  WEBB, Bruce A.
;    APPLICANT:  CUI, Liwang
;    TITLE OF INVENTION:  VIRAL AND INSECT GENES THAT INHIBIT THE
;    TITLE OF INVENTION:  IMMUNE SYSTEM AND METHODS OF USE THEREOF
;    NUMBER OF SEQUENCES:  8
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  LOWE, PRICE, LEBLANC & BECKER
;      STREET:  99 Canal Center Plaza, Suite 300
;      CITY:  Alexandria
;      STATE:  VA
;      COUNTRY:  US
;      ZIP:  22314
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/622,354
;      FILING DATE:  27-MAR-1996
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Price, Robert L.
;      REGISTRATION NUMBER:  22,685
;      REFERENCE/DOCKET NUMBER:  434-061
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (703) 684-1111
;      TELEFAX:  (703) 684-1124
;  INFORMATION FOR SEQ ID NO:  3:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  322 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-622-354-3

  Query Match             63.6%;  Score 35;  DB 2;  Length 322;
  Best Local Similarity   71.4%;  Pred. No. 1.1e+02;
  Matches    5;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 CWGNQLF 8
              || |:||
Db        292 CWENKLF 298


RESULT 15
US-08-724-281-1
; Sequence 1, Application US/08724281
; Patent No. 5874089
;  GENERAL INFORMATION:
;    APPLICANT:  SCHLEGEL, C. Richard
;    APPLICANT:  JENSON, A. Bennett
;    APPLICANT:  GHIM, Shin-Je
;    TITLE OF INVENTION:  PAPILLOMAVIRUS VACCINES
;    NUMBER OF SEQUENCES:  2
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  BURNS, DOANE, SWECKER & MATHIS
;      STREET:  P.O. Box 1404
;      CITY:  Alexandria
;      STATE:  Virginia
;      COUNTRY:  United States
;      ZIP:  22313-1404
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/724,281
;      FILING DATE:  01-OCT-1996
;      CLASSIFICATION:  424
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/004,691
;      FILING DATE:  02-OCT-1995
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Teskin, Robin L.
;      REGISTRATION NUMBER:  35,030
;      REFERENCE/DOCKET NUMBER:  010091-015
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (703) 836-6620
;      TELEFAX:  (703) 836-2021
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  508 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-724-281-1

  Query Match             61.8%;  Score 34;  DB 2;  Length 508;
  Best Local Similarity   66.7%;  Pred. No. 2.6e+02;
  Matches    6;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              | | ||||:
Db        330 IGWRNQLFI 338


Search completed:  July 17, 2003, 19:44:42
Job time :  15 secs
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GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: July 17, 2003, 19:44:26 ; Search time 307 Seconds
(without alignments)
18.901 Million cell updates/sec

Title: US-09-980-177A-12
Perfect score: 55
Sequence: 1 ICWGNQLFV 9

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 4569144 seqs, 644733110 residues

Total number of hits satisfying chosen parameters: 4569144

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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26: /cgn2_6/ptodata/1/paa/US102_COMB.pep:*
27: /cgn2_6/ptodata/1/paa/US60_COMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	55	100.0	494	21	US-09-791-537-16482	Sequence 16482, A
2	55	100.0	494	21	US-09-791-537-16490	Sequence 16490, A
3	55	100.0	494	21	US-09-791-537-16492	Sequence 16492, A
4	55	100.0	494	21	US-09-791-537-16493	Sequence 16493, A
5	55	100.0	494	21	US-09-791-537-16502	Sequence 16502, A
6	55	100.0	494	21	US-09-791-537-16503	Sequence 16503, A
7	55	100.0	494	21	US-09-791-537-16504	Sequence 16504, A
8	55	100.0	494	21	US-09-791-537-16513	Sequence 16513, A
9	55	100.0	494	21	US-09-791-537-16525	Sequence 16525, A
10	55	100.0	494	21	US-09-791-537-16527	Sequence 16527, A
11	55	100.0	494	21	US-09-791-537-16534	Sequence 16534, A
12	55	100.0	494	21	US-09-791-537-16549	Sequence 16549, A
13	55	100.0	495	21	US-09-791-537-42364	Sequence 42364, A
14	55	100.0	500	1	PCT-US00-33549-8	Sequence 8, Appli
15	55	100.0	500	1	PCT-US00-33549-17	Sequence 17, Appl
16	55	100.0	500	21	US-09-791-537-84636	Sequence 84636, A
17	55	100.0	500	21	US-09-791-537-84645	Sequence 84645, A
18	55	100.0	500	21	US-09-791-537-84646	Sequence 84646, A
19	55	100.0	500	21	US-09-791-537-84647	Sequence 84647, A
20	55	100.0	500	21	US-09-791-537-84648	Sequence 84648, A
21	55	100.0	500	21	US-09-791-537-84654	Sequence 84654, A
22	55	100.0	500	21	US-09-791-537-84656	Sequence 84656, A
23	55	100.0	500	21	US-09-791-537-84658	Sequence 84658, A
24	55	100.0	500	21	US-09-791-537-112091	Sequence 112091,
25	55	100.0	500	21	US-09-791-537-114229	Sequence 114229,
26	55	100.0	500	21	US-09-791-537-117847	Sequence 117847,
27	55	100.0	501	21	US-09-791-537-98351	Sequence 98351, A
28	55	100.0	503	21	US-09-791-537-67422	Sequence 67422, A
29	55	100.0	504	1	PCT-US00-33549-47	Sequence 47, Appl
30	55	100.0	504	21	US-09-791-537-3220	Sequence 3220, Ap
31	55	100.0	504	21	US-09-791-537-117804	Sequence 117804,
32	55	100.0	505	10	US-08-641-570-2	Sequence 2, Appli
33	55	100.0	505	10	US-08-641-570-4	Sequence 4, Appli
34	55	100.0	505	14	US-09-026-896-2	Sequence 2, Appli
35	55	100.0	505	15	US-09-162-904-2	Sequence 2, Appli
36	55	100.0	505	15	US-09-162-904-4	Sequence 4, Appli
37	55	100.0	505	15	US-09-162-904A-3	Sequence 3, Appli
38	55	100.0	505	15	US-09-162-904A-4	Sequence 4, Appli
39	55	100.0	505	21	US-09-791-537-3195	Sequence 3195, Ap
40	55	100.0	505	21	US-09-791-537-5629	Sequence 5629, Ap
41	55	100.0	505	21	US-09-791-537-42978	Sequence 42978, A
42	55	100.0	505	21	US-09-791-537-42979	Sequence 42979, A
43	55	100.0	505	21	US-09-791-537-42981	Sequence 42981, A
44	55	100.0	505	21	US-09-791-537-51031	Sequence 51031, A
45	55	100.0	505	21	US-09-791-537-89377	Sequence 89377, A

ALIGNMENTS

RESULT 1
US-09-791-537-16482
; Sequence 16482, Application US/09791537
; GENERAL INFORMATION:
; APPLICANT: Bionomix, Inc.
; APPLICANT: Debe, Derek
; APPLICANT: Danzer, Joseph
; TITLE OF INVENTION: THREE DIMENSIONAL STRUCTURES OF PROTEIN FAMILIES AND FAMILY MEMB
; TITLE OF INVENTION: METHODS OF USE THEREOF
; FILE REFERENCE: 261/210
; CURRENT APPLICATION NUMBER: US/09/791,537
; CURRENT FILING DATE: 2001-02-22
; NUMBER OF SEQ ID NOS: 153055
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 16482
; LENGTH: 494
; TYPE: PRT
; ORGANISM: Human papillomavirus
US-09-791-537-16482

Query Match 100.0%; Score 55; DB 21; Length 494;
Best Local Similarity 100.0%; Pred. No. 1.2;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy          1 ICWGNQLFV 9
              |||||||||
Db        314 ICWGNQLFV 322
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RESULT 2
US-09-791-537-16490
; Sequence 16490, Application US/09791537
; GENERAL INFORMATION:
; APPLICANT: Bionomix, Inc.
; APPLICANT: Debe, Derek
; APPLICANT: Danzer, Joseph
; TITLE OF INVENTION: THREE DIMENSIONAL STRUCTURES OF PROTEIN FAMILIES AND FAMILY MEMBE
; TITLE OF INVENTION: METHODS OF USE THEREOF
; FILE REFERENCE: 261/210
; CURRENT APPLICATION NUMBER: US/09/791,537
; CURRENT FILING DATE: 2001-02-22
; NUMBER OF SEQ ID NOS: 153055
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 16490
; LENGTH: 494
; TYPE: PRT
; ORGANISM: Human papillomavirus
US-09-791-537-16490

Query Match 100.0%; Score 55; DB 21; Length 494;
Best Local Similarity 100.0%; Pred. No. 1.2;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ICWGNQLFV 9
||||||||| |
Db 314 ICWGNQLFV 322

RESULT 3
US-09-791-537-16492
; Sequence 16492, Application US/09791537
; GENERAL INFORMATION:
; APPLICANT: Bionomix, Inc.
; APPLICANT: Debe, Derek
; APPLICANT: Danzer, Joseph
; TITLE OF INVENTION: THREE DIMENSIONAL STRUCTURES OF PROTEIN FAMILIES AND FAMILY MEMBE
; TITLE OF INVENTION: METHODS OF USE THEREOF
; FILE REFERENCE: 261/210
; CURRENT APPLICATION NUMBER: US/09/791,537
; CURRENT FILING DATE: 2001-02-22
; NUMBER OF SEQ ID NOS: 153055
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 16492
; LENGTH: 494
; TYPE: PRT
; ORGANISM: Human papillomavirus
US-09-791-537-16492

Query Match 100.0%; Score 55; DB 21; Length 494;
Best Local Similarity 100.0%; Pred. No. 1.2;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ICWGNQLFV 9
||||||||| |
Db 314 ICWGNQLFV 322

RESULT 4
US-09-791-537-16493
; Sequence 16493, Application US/09791537
; GENERAL INFORMATION:
; APPLICANT: Bionomix, Inc.
; APPLICANT: Debe, Derek
; APPLICANT: Danzer, Joseph
; TITLE OF INVENTION: THREE DIMENSIONAL STRUCTURES OF PROTEIN FAMILIES AND FAMILY MEMBE
; TITLE OF INVENTION: METHODS OF USE THEREOF
; FILE REFERENCE: 261/210
; CURRENT APPLICATION NUMBER: US/09/791,537
; CURRENT FILING DATE: 2001-02-22
; NUMBER OF SEQ ID NOS: 153055
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 16493
; LENGTH: 494
; TYPE: PRT
; ORGANISM: Human papillomavirus
US-09-791-537-16493

Query Match 100.0%; Score 55; DB 21; Length 494;
Best Local Similarity 100.0%; Pred. No. 1.2;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ICWGNQLFV 9
||||||||| |
Db 314 ICWGNQLFV 322

RESULT 5
US-09-791-537-16502
; Sequence 16502, Application US/09791537
; GENERAL INFORMATION:
; APPLICANT: Bionomix, Inc.
; APPLICANT: Debe, Derek
; APPLICANT: Danzer, Joseph
; TITLE OF INVENTION: THREE DIMENSIONAL STRUCTURES OF PROTEIN FAMILIES AND FAMILY MEMB
; TITLE OF INVENTION: METHODS OF USE THEREOF
; FILE REFERENCE: 261/210
; CURRENT APPLICATION NUMBER: US/09/791,537
; CURRENT FILING DATE: 2001-02-22
; NUMBER OF SEQ ID NOS: 153055
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 16502
; LENGTH: 494
; TYPE: PRT
; ORGANISM: Human papillomavirus
US-09-791-537-16502

Query Match 100.0%; Score 55; DB 21; Length 494;
Best Local Similarity 100.0%; Pred. No. 1.2;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ICWGNQLFV 9
||||||||| |
Db 314 ICWGNQLFV 322

RESULT 6
US-09-791-537-16503
; Sequence 16503, Application US/09791537
; GENERAL INFORMATION:
; APPLICANT: Bionomix, Inc.
; APPLICANT: Debe, Derek
; APPLICANT: Danzer, Joseph
; TITLE OF INVENTION: THREE DIMENSIONAL STRUCTURES OF PROTEIN FAMILIES AND FAMILY MEMB
; TITLE OF INVENTION: METHODS OF USE THEREOF
; FILE REFERENCE: 261/210
; CURRENT APPLICATION NUMBER: US/09/791,537
; CURRENT FILING DATE: 2001-02-22
; NUMBER OF SEQ ID NOS: 153055
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 16503
; LENGTH: 494
; TYPE: PRT
; ORGANISM: Human papillomavirus
US-09-791-537-16503

Query Match 100.0%; Score 55; DB 21; Length 494;
Best Local Similarity 100.0%; Pred. No. 1.2;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ICWGNQLFV 9
||||||||| |
Db 314 ICWGNQLFV 322

RESULT 7

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US-09-791-537-16504
; Sequence 16504, Application US/09791537
; GENERAL INFORMATION:
;  APPLICANT: Bionomix, Inc.
;  APPLICANT:  Debe, Derek
;  APPLICANT:  Danzer, Joseph
;  TITLE OF INVENTION: THREE DIMENSIONAL STRUCTURES OF PROTEIN FAMILIES AND FAMILY MEMBE
;  TITLE OF INVENTION:  METHODS OF USE THEREOF
;  FILE REFERENCE: 261/210
;  CURRENT APPLICATION NUMBER: US/09/791,537
;  CURRENT FILING DATE:  2001-02-22
;  NUMBER OF SEQ ID NOS: 153055
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 16504
;   LENGTH: 494
;   TYPE: PRT
;   ORGANISM: Human papillomavirus
US-09-791-537-16504

  Query Match             100.0%;  Score 55;  DB 21;  Length 494;
  Best Local Similarity   100.0%;  Pred. No. 1.2;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        314 ICWGNQLFV 322


RESULT 8
US-09-791-537-16513
; Sequence 16513, Application US/09791537
; GENERAL INFORMATION:
;  APPLICANT: Bionomix, Inc.
;  APPLICANT:  Debe, Derek
;  APPLICANT:  Danzer, Joseph
;  TITLE OF INVENTION: THREE DIMENSIONAL STRUCTURES OF PROTEIN FAMILIES AND FAMILY MEMBE
;  TITLE OF INVENTION:  METHODS OF USE THEREOF
;  FILE REFERENCE: 261/210
;  CURRENT APPLICATION NUMBER: US/09/791,537
;  CURRENT FILING DATE:  2001-02-22
;  NUMBER OF SEQ ID NOS: 153055
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 16513
;   LENGTH: 494
;   TYPE: PRT
;   ORGANISM: Human papillomavirus
US-09-791-537-16513

  Query Match             100.0%;  Score 55;  DB 21;  Length 494;
  Best Local Similarity   100.0%;  Pred. No. 1.2;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        314 ICWGNQLFV 322


RESULT 9
US-09-791-537-16525
; Sequence 16525, Application US/09791537
; GENERAL INFORMATION:
;  APPLICANT: Bionomix, Inc.
;  APPLICANT:  Debe, Derek
;  APPLICANT:  Danzer, Joseph
;  TITLE OF INVENTION: THREE DIMENSIONAL STRUCTURES OF PROTEIN FAMILIES AND FAMILY MEMBE
;  TITLE OF INVENTION:  METHODS OF USE THEREOF
;  FILE REFERENCE: 261/210
;  CURRENT APPLICATION NUMBER: US/09/791,537
;  CURRENT FILING DATE:  2001-02-22
;  NUMBER OF SEQ ID NOS: 153055
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 16525
;   LENGTH: 494
;   TYPE: PRT
;   ORGANISM: Human papillomavirus
US-09-791-537-16525

  Query Match             100.0%;  Score 55;  DB 21;  Length 494;
  Best Local Similarity   100.0%;  Pred. No. 1.2;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
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Db        314 ICWGNQLFV 322


RESULT 10
US-09-791-537-16527
; Sequence 16527, Application US/09791537
; GENERAL INFORMATION:
;  APPLICANT: Bionomix, Inc.
;  APPLICANT:  Debe, Derek
;  APPLICANT:  Danzer, Joseph
;  TITLE OF INVENTION: THREE DIMENSIONAL STRUCTURES OF PROTEIN FAMILIES AND FAMILY MEMB
;  TITLE OF INVENTION:  METHODS OF USE THEREOF
;  FILE REFERENCE: 261/210
;  CURRENT APPLICATION NUMBER: US/09/791,537
;  CURRENT FILING DATE:  2001-02-22
;  NUMBER OF SEQ ID NOS: 153055
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 16527
;   LENGTH: 494
;   TYPE: PRT
;   ORGANISM: Human papillomavirus
US-09-791-537-16527

  Query Match             100.0%;  Score 55;  DB 21;  Length 494;
  Best Local Similarity   100.0%;  Pred. No. 1.2;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        314 ICWGNQLFV 322


RESULT 11
US-09-791-537-16534
; Sequence 16534, Application US/09791537
; GENERAL INFORMATION:
;  APPLICANT: Bionomix, Inc.
;  APPLICANT:  Debe, Derek
;  APPLICANT:  Danzer, Joseph
;  TITLE OF INVENTION: THREE DIMENSIONAL STRUCTURES OF PROTEIN FAMILIES AND FAMILY MEMB
;  TITLE OF INVENTION:  METHODS OF USE THEREOF
;  FILE REFERENCE: 261/210
;  CURRENT APPLICATION NUMBER: US/09/791,537
;  CURRENT FILING DATE:  2001-02-22
;  NUMBER OF SEQ ID NOS: 153055
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 16534
;   LENGTH: 494
;   TYPE: PRT
;   ORGANISM: Human papillomavirus
US-09-791-537-16534

  Query Match             100.0%;  Score 55;  DB 21;  Length 494;
  Best Local Similarity   100.0%;  Pred. No. 1.2;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        314 ICWGNQLFV 322


RESULT 12
US-09-791-537-16549
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```
; Sequence 16549, Application US/09791537
; GENERAL INFORMATION:
;  APPLICANT: Bionomix, Inc.
;  APPLICANT:  Debe, Derek
;  APPLICANT:  Danzer, Joseph
;  TITLE OF INVENTION: THREE DIMENSIONAL STRUCTURES OF PROTEIN FAMILIES AND FAMILY MEMBE
;  TITLE OF INVENTION:  METHODS OF USE THEREOF
;  FILE REFERENCE: 261/210
;  CURRENT APPLICATION NUMBER: US/09/791,537
;  CURRENT FILING DATE:  2001-02-22
;  NUMBER OF SEQ ID NOS: 153055
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 16549
;   LENGTH: 494
;   TYPE: PRT
;   ORGANISM: Human papillomavirus
US-09-791-537-16549

  Query Match             100.0%;  Score 55;  DB 21;  Length 494;
  Best Local Similarity   100.0%;  Pred. No. 1.2;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        314 ICWGNQLFV 322


RESULT 13
US-09-791-537-42364
; Sequence 42364, Application US/09791537
; GENERAL INFORMATION:
;  APPLICANT: Bionomix, Inc.
;  APPLICANT:  Debe, Derek
;  APPLICANT:  Danzer, Joseph
;  TITLE OF INVENTION: THREE DIMENSIONAL STRUCTURES OF PROTEIN FAMILIES AND FAMILY MEMBE
;  TITLE OF INVENTION:  METHODS OF USE THEREOF
;  FILE REFERENCE: 261/210
;  CURRENT APPLICATION NUMBER: US/09/791,537
;  CURRENT FILING DATE:  2001-02-22
;  NUMBER OF SEQ ID NOS: 153055
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 42364
;   LENGTH: 495
;   TYPE: PRT
;   ORGANISM: Human papillomavirus type 16
US-09-791-537-42364

  Query Match             100.0%;  Score 55;  DB 21;  Length 495;
  Best Local Similarity   100.0%;  Pred. No. 1.2;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        317 ICWGNQLFV 325


RESULT 14
PCT-US00-33549-8
; Sequence 8, Application PC/TUS0033549
; GENERAL INFORMATION:
;  APPLICANT: Sette, Alessandro
;  APPLICANT:  Sidney, John
;  APPLICANT:  Southwood, Scott
;  APPLICANT:  Chesnut, Robert
;  APPLICANT:  Celis, Esteban
;  APPLICANT:  Grey, Howard M.
;  APPLICANT:  Epimmune Inc.
;  TITLE OF INVENTION: Inducing Cellular Immune Responses to Human
;  TITLE OF INVENTION:  Papillomavirus Using Peptide and Nucleic Acid
;  TITLE OF INVENTION:  Compositions
;  FILE REFERENCE: 018623-016110PC
;  CURRENT APPLICATION NUMBER: PCT/US00/33549
;  CURRENT FILING DATE:  2000-12-11
;  PRIOR APPLICATION NUMBER: US 60/172,705
;  PRIOR FILING DATE: 1999-12-10
;  PRIOR APPLICATION NUMBER: US 09/641,528
;  PRIOR FILING DATE: 2000-08-15
;  NUMBER OF SEQ ID NOS: 86
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 8
;   LENGTH: 500
;   TYPE: PRT
;   ORGANISM: Human papillomavirus type 6a
PCT-US00-33549-8

  Query Match             100.0%;  Score 55;  DB 1;  Length 500;
  Best Local Similarity   100.0%;  Pred. No. 1.2;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        319 ICWGNQLFV 327


RESULT 15
PCT-US00-33549-17
; Sequence 17, Application PC/TUS0033549
; GENERAL INFORMATION:
;  APPLICANT: Sette, Alessandro
;  APPLICANT:  Sidney, John
;  APPLICANT:  Southwood, Scott
;  APPLICANT:  Chesnut, Robert
;  APPLICANT:  Celis, Esteban
;  APPLICANT:  Grey, Howard M.
;  APPLICANT:  Epimmune Inc.
;  TITLE OF INVENTION: Inducing Cellular Immune Responses to Human
;  TITLE OF INVENTION:  Papillomavirus Using Peptide and Nucleic Acid
;  TITLE OF INVENTION:  Compositions
;  FILE REFERENCE: 018623-016110PC
;  CURRENT APPLICATION NUMBER: PCT/US00/33549
;  CURRENT FILING DATE:  2000-12-11
;  PRIOR APPLICATION NUMBER: US 60/172,705
;  PRIOR FILING DATE: 1999-12-10
;  PRIOR APPLICATION NUMBER: US 09/641,528
;  PRIOR FILING DATE: 2000-08-15
;  NUMBER OF SEQ ID NOS: 86
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 17
;   LENGTH: 500
;   TYPE: PRT
;   ORGANISM: Human papillomavirus type 6a
PCT-US00-33549-17

  Query Match             100.0%;  Score 55;  DB 1;  Length 500;
  Best Local Similarity   100.0%;  Pred. No. 1.2;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        319 ICWGNQLFV 327


Search completed: July 17, 2003, 19:52:59
Job time : 308 secs
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GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: July 17, 2003, 19:42:36 ; Search time 40 Seconds
(without alignments)
21.630 Million cell updates/sec

Title: US-09-980-177A-12
Perfect score: 55
Sequence: 1 ICWGNQLFV 9

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283224 seqs, 96134422 residues

Total number of hits satisfying chosen parameters: 283224

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_73:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	55	100.0	500	1	P1WL6	L1 protein - human
2	55	100.0	503	2	S36549	L1 protein - human
3	55	100.0	504	1	P1WL31	L1 protein - human
4	55	100.0	524	1	P1WL58	L1 protein - human
5	55	100.0	529	2	S36578	L1 protein - human
6	55	100.0	531	1	P1WLHS	major capsid prote
7	55	100.0	534	2	S36583	L1 protein - human
8	52	94.5	136	2	PC2225	peptide L1AE 3 - p
9	52	94.5	499	1	P1WL33	L1 protein - human
10	52	94.5	502	1	P1WL42	L1 protein - human
11	52	94.5	508	2	S36508	L1 protein - human
12	50	90.9	499	1	P1WL13	L1 protein - human
13	50	90.9	501	1	P1WL11	L1 protein - human
14	49	89.1	354	1	P1WLR1	L1 protein - rhesu
15	49	89.1	499	2	S36531	L1 protein - human
16	49	89.1	502	1	P1WLC1	L1 protein - pygmy
17	49	89.1	502	2	S36526	L1 protein - human
18	49	89.1	503	2	S36514	L1 protein - human
19	49	89.1	505	1	P1WL35	L1 protein - human
20	49	89.1	531	2	S36537	L1 protein - human
21	49	89.1	532	2	S36554	L1 protein (altern
22	48	87.3	138	2	PC2224	peptide L1AE 2 - p
23	48	87.3	504	1	P1WL51	L1 protein - human
24	47	85.5	539	2	S36566	L1 protein - human
25	46	83.6	138	2	PC2223	peptide L1AE 1 - p
26	46	83.6	508	1	P1WL	L1 protein - human
27	46	83.6	509	2	S36572	L1 protein - human
28	46	83.6	517	2	S36496	L1 protein - human
29	46	83.6	518	2	S36472	L2 protein - human
30	46	83.6	546	2	S36490	L1 protein - human
31	46	83.6	568	1	P1WL18	L1 protein - human
32	45	81.8	501	1	P1WLEP	L1 protein - Europ
33	45	81.8	505	1	P1WLRB	L1 protein - cotto
34	45	81.8	505	2	S36589	L1 protein - human
35	45	81.8	505	2	S36560	L1 protein - human
36	44	80.0	505	1	P1WLPR	L1 protein - human
37	44	80.0	505	1	P1WL39	L1 protein - human
38	44	80.0	528	2	S36520	L1 protein - human
39	43	78.2	138	2	PC2226	peptide L1AE 4 - p
40	43	78.2	506	1	P1WLB4	L1 protein - bovin
41	43	78.2	507	2	S36595	L1 protein - human
42	43	78.2	507	2	S36484	L1 protein - human
43	43	78.2	510	1	S15627	L1 protein - human
44	43	78.2	594	2	S36502	L1 protein (altern
45	42	76.4	502	2	JE0295	L1 protein - human

ALIGNMENTS

RESULT 1
P1WL6
L1 protein - human papillomavirus type 6b
C;Species: human papillomavirus type 6b
C;Date: 03-Aug-1984 #sequence_revision 03-Aug-1984 #text_change 16-Jul-1999
C;Accession: A03638
R;Schwarz, E.; Durst, M.; Demankowski, C.; Lattermann, O.; Zech, R.; Wolfsperger, E.; Su
EMBO J. 2, 2341-2348, 1983
A;Title: DNA sequence and genome organization of genital human papillomavirus type 6b.
A;Reference number: A90975; MUID:84131949; PMID:6321162
A;Accession: A03638
A;Molecule type: DNA
A;Residues: 1-500 <SCH>
A;Cross-references: GB:X00203; NID:g60955; PIDN:CAA25026.1; PID:g60964
C;Superfamily: papillomavirus L1 protein
C;Keywords: late protein

Query Match 100.0%; Score 55; DB 1; Length 500;
Best Local Similarity 100.0%; Pred. No. 0.037;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ICWGNQLFV 9
|||||||||
Db 319 ICWGNQLFV 327

RESULT 2
S36549
L1 protein - human papillomavirus type 26
C;Species: human papillomavirus type 26
C;Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 26-Aug-1999
C;Accession: S36549
R;Delius, H.; Hofmann, B.
submitted to the EMBL Data Library, August 1993
A;Description: Primer-directed sequencing of human papillomavirus types.
A;Reference number: S36469
A;Accession: S36549
A;Molecule type: DNA
A;Residues: 1-503 <DEL>
A;Cross-references: EMBL:X74472; NID:g396956; PIDN:CAA52535.1; PID:g396963
C;Superfamily: papillomavirus L1 protein
C;Keywords: late protein

Query Match 100.0%; Score 55; DB 2; Length 503;
Best Local Similarity 100.0%; Pred. No. 0.037;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ICWGNQLFV 9
|||||||||
Db 323 ICWGNQLFV 331

```
RESULT 3
P1WL31
L1 protein - human papillomavirus type 31
C;Species: human papillomavirus type 31
A;Note: host Homo sapiens (man)
C;Date: 31-Mar-1990 #sequence_revision 31-Mar-1990 #text_change 16-Jul-1999
C;Accession: G32444
R;Goldsborough, M.D.; DiSilvestre, D.; Temple, G.F.; Lorincz, A.T.
Virology 171, 306-311, 1989
A;Title: Nucleotide sequence of human papillomavirus type 31: a cervical neoplasia-assoc
A;Reference number: A94398; MUID:89299478; PMID:2545036
A;Accession: G32444
A;Status: translation not shown
A;Molecule type: DNA
A;Residues: 1-504 <GOL>
A;Cross-references: GB:J04353; NID:g333048; PIDN:AAA46956.1; PID:g459922
C;Superfamily: papillomavirus L1 protein
C;Keywords: late protein

  Query Match             100.0%;  Score 55;  DB 1;  Length 504;
  Best Local Similarity   100.0%;  Pred. No. 0.037;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        324 ICWGNQLFV 332


RESULT 4
P1WL58
L1 protein - human papillomavirus type 58
C;Species: human papillomavirus type 58
A;Note: host Homo sapiens (man)
C;Date: 31-Mar-1992 #sequence_revision 31-Mar-1992 #text_change 21-Jul-2000
C;Accession: G36779
R;Kirii, Y.; Iwamoto, S.; Matsukura, T.
Virology 185, 424-427, 1991
A;Title: Human papillomavirus type 58 DNA sequence.
A;Reference number: A36779; MUID:92024102; PMID:1656594
A;Accession: G36779
A;Status: translation not shown
A;Molecule type: DNA
A;Residues: 1-524 <KIR>
A;Cross-references: GB:D90400; NID:g222386; PIDN:BAA31851.1; PID:g3337104
C;Superfamily: papillomavirus L1 protein
C;Keywords: late protein

  Query Match             100.0%;  Score 55;  DB 1;  Length 524;
  Best Local Similarity   100.0%;  Pred. No. 0.039;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        349 ICWGNQLFV 357


RESULT 5
S36578
L1 protein - human papillomavirus type 52
C;Species: human papillomavirus type 52
C;Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 26-Aug-1999
C;Accession: S36578; I44889
R;Delius, H.; Hofmann, B.
submitted to the EMBL Data Library, August 1993
A;Description: Primer-directed sequencing of human papillomavirus types.
A;Reference number: S36469
A;Accession: S36578
A;Molecule type: DNA
A;Residues: 1-529 <DEL>
A;Cross-references: EMBL:X74481; NID:g397038; PIDN:CAA52590.1; PID:g397045
R;van den Brule, A.J.; Snijders, P.J.; Raaphorst, P.M.; Schrijnemakers, H.F.; Delius, H.
J. Clin. Microbiol. 30, 1716-1721, 1992
A;Title: General primer polymerase chain reaction in combination with sequence analysis
A;Reference number: A44889; MUID:92332706; PMID:1321168
A;Accession: I44889
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 368-399 <VAN>
A;Cross-references: GB:S40277; NID:g251698; PIDN:AAB22570.1; PID:g251699
A;Experimental source: type Xa, cervical carcinoma in situr
A;Note: sequence extracted from NCBI backbone (NCBIN:109399, NCBIP:109447)
C;Superfamily: papillomavirus L1 protein
C;Keywords: late protein

  Query Match             100.0%;  Score 55;  DB 2;  Length 529;
  Best Local Similarity   100.0%;  Pred. No. 0.039;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        354 ICWGNQLFV 362


RESULT 6
P1WLHS
major capsid protein L1 - human papillomavirus type 16
C;Species: human papillomavirus type 16
C;Date: 28-May-1986 #sequence_revision 28-May-1986 #text_change 20-Aug-1999
C;Accession: A03640; F44906; T10431
R;Seedorf, K.; Krammer, G.; Durst, M.; Suhai, S.; Rowekamp, W.G.
Virology 145, 181-185, 1985
A;Title: Human papillomavirus type 16 DNA sequence.
A;Reference number: A22355; MUID:85246220; PMID:2990099
A;Accession: A03640
A;Molecule type: DNA
A;Residues: 1-531 <SEE>
A;Cross-references: GB:K02718; NID:g333031; PIDN:AAA46943.1; PID:g333037
R;van den Brule, A.J.; Snijders, P.J.; Raaphorst, P.M.; Schrijnemakers, H.F.; Delius, H
J. Clin. Microbiol. 30, 1716-1721, 1992
A;Title: General primer polymerase chain reaction in combination with sequence analysis
A;Reference number: A44889; MUID:92332706; PMID:1321168
A;Contents: mucosotropic type 16, cervical smear
A;Accession: F44906
A;Status: not compared with conceptual translation
A;Molecule type: DNA
A;Residues: 363-395 <VAN>
A;Note: sequence extracted from NCBI backbone (NCBIP:109407)
R;Kennedy, I.M.; Haddow, J.K.; Clements, J.B.
J. Virol. 65, 2093-2097, 1991
A;Title: A negative element in the human poapillomavirus type 16 genome acts at the lev
A;Reference number: Z17014; MUID:91162763; PMID:1848319
A;Accession: T10431
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-531 <KEN>
A;Cross-references: EMBL:K02718; NID:g333031; PIDN:AAA46943.1; PID:g333037
C;Genetics:
A;Gene: L1
C;Superfamily: papillomavirus L1 protein
C;Keywords: late protein

  Query Match             100.0%;  Score 55;  DB 1;  Length 531;
  Best Local Similarity   100.0%;  Pred. No. 0.039;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        349 ICWGNQLFV 357


RESULT 7
S36583
L1 protein - human papillomavirus type 56
C;Species: human papillomavirus type 56
C;Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 26-Aug-1999
C;Accession: S36583; H44889
```

R;Delius, H.; Hofmann, B.
submitted to the EMBL Data Library, August 1993
A;Description: Primer-directed sequencing of human papillomavirus types.
A;Reference number: S36469
A;Accession: S36583
A;Molecule type: DNA
A;Residues: 1-534 <DEL>
A;Cross-references: EMBL:X74483; NID:g397053; PIDN:CAA52600.1; PID:g397059
R;van den Brule, A.J.; Snijders, P.J.; Raaphorst, P.M.; Schrijnemakers, H.F.; Delius, H.
J. Clin. Microbiol. 30, 1716-1721, 1992
A;Title: General primer polymerase chain reaction in combination with sequence analysis
A;Reference number: A44889; MUID:92332706; PMID:1321168
A;Accession: H44889
A;Molecule type: DNA
A;Residues: 371-402 <VAN>
A;Cross-references: GB:S40273; NID:g251696; PIDN:AAB22569.1; PID:g251697
A;Experimental source: mucosotropic type 56, cervical smear
A;Note: sequence inconsistent with the nucleotide translation
A;Note: sequence extracted from NCBI backbone (NCBIN:109398, NCBIP:109406)
C;Superfamily: papillomavirus L1 protein
C;Keywords: late protein

Query Match 100.0%; Score 55; DB 2; Length 534;
Best Local Similarity 100.0%; Pred. No. 0.039;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 ICWGNQLFV 9
              |||||||||
Db        357 ICWGNQLFV 365
```

RESULT 8
PC2225
peptide L1AE 3 - papillomavirus (fragment)
C;Species: papillomavirus
C;Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 09-May-1997
C;Accession: PC2225
R;Tachezy, R.; Van Ranst, M.A.; Cruz, Y.; Burk, R.D.
Biochem. Biophys. Res. Commun. 204, 820-827, 1994
A;Title: Analysis of short novel human papillomavirus sequences.
A;Reference number: PC2223; MUID:95071400; PMID:7980548
A;Accession: PC2225
A;Molecule type: DNA
A;Residues: 1-136 <TAC>
A;Cross-references: EMBL:U01533
C;Superfamily: papillomavirus L1 protein

Query Match 94.5%; Score 52; DB 2; Length 136;
Best Local Similarity 88.9%; Pred. No. 0.038;
Matches 8; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

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Qy          1 ICWGNQLFV 9
              ||||||:||
Db          1 ICWGNQVFV 9
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RESULT 9
P1WL33
L1 protein - human papillomavirus type 33
C;Species: human papillomavirus type 33
C;Date: 30-Jun-1987 #sequence_revision 30-Jun-1987 #text_change 16-Jul-1999
C;Accession: A03641
R;Cole, S.T.; Streeck, R.E.
J. Virol. 58, 991-995, 1986
A;Title: Genome organization and nucleotide sequence of human papillomavirus type 33, wh
A;Reference number: A93020; MUID:86200464; PMID:3009902
A;Accession: A03641
A;Molecule type: DNA
A;Residues: 1-499 <COL>
A;Cross-references: GB:M12732; NID:g333049; PIDN:AAA46964.1; PID:g463183
C;Superfamily: papillomavirus L1 protein
C;Keywords: late protein

Query Match 94.5%; Score 52; DB 1; Length 499;
Best Local Similarity 88.9%; Pred. No. 0.13;
Matches 8; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 ICWGNQLFV 9
              ||||||:||
Db        323 ICWGNQVFV 331
```

RESULT 10
P1WL42
L1 protein - human papillomavirus type 42
C;Species: human papillomavirus type 42
A;Note: host Homo sapiens (man)
C;Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 27-Jan-1995
C;Accession: G39451
R;Philipp, W.; Honore, N.; Sapp, M.; Cole, S.T.; Streeck, R.E.
Virology 186, 331-334, 1992
A;Title: Human papillomavirus type 42: new sequence, conserved genome organization.
A;Reference number: A39451; MUID:92087479; PMID:1309278
A;Accession: G39451
A;Status: translation not shown
A;Molecule type: DNA
A;Residues: 1-502 <PHI>
A;Cross-references: GB:M73236
C;Superfamily: papillomavirus L1 protein
C;Keywords: late protein

Query Match 94.5%; Score 52; DB 1; Length 502;
Best Local Similarity 88.9%; Pred. No. 0.13;
Matches 8; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 ICWGNQLFV 9
              ||||||||:
Db        323 ICWGNQLFL 331
```

RESULT 11
S36508
L1 protein - human papillomavirus type 30
C;Species: human papillomavirus type 30
C;Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 26-Aug-1999
C;Accession: S36508
R;Delius, H.; Hofmann, B.
submitted to the EMBL Data Library, August 1993
A;Description: Primer-directed sequencing of human papillomavirus types.
A;Reference number: S36469
A;Accession: S36508
A;Molecule type: DNA
A;Residues: 1-508 <DEL>
A;Cross-references: EMBL:X74474; NID:g396973; PIDN:CAA52548.1; PID:g396980
C;Superfamily: papillomavirus L1 protein
C;Keywords: late protein

Query Match 94.5%; Score 52; DB 2; Length 508;
Best Local Similarity 88.9%; Pred. No. 0.13;
Matches 8; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 ICWGNQLFV 9
              ||||||:||
Db        330 ICWGNQVFV 338
```

RESULT 12
P1WL13
L1 protein - human papillomavirus type 13
C;Species: human papillomavirus type 13
A;Note: host Homo sapiens (man)
C;Date: 30-Jun-1993 #sequence_revision 30-Jun-1993 #text_change 16-Jul-1999
C;Accession: H42955; A44889
R;van Ranst, M.; Fuse, A.; Fiten, P.; Beuken, E.; Pfister, H.; Burk, R.D.; Opdenakker,
Virology 190, 587-596, 1992
A;Title: Human papillomavirus type 13 and pygmy chimpanzee papillomavirus type 1: Compa

```
A;Reference number: A42955; MUID:92391075; PMID:1325697
A;Accession: H42955
A;Molecule type: DNA
A;Residues: 1-499 <VAN>
A;Cross-references: EMBL:X62843; NID:g60295; PIDN:CAA44654.1; PID:g60303
R;van den Brule, A.J.; Snijders, P.J.; Raaphorst, P.M.; Schrijnemakers, H.F.; Delius, H.
J. Clin. Microbiol. 30, 1716-1721, 1992
A;Title: General primer polymerase chain reaction in combination with sequence analysis
A;Reference number: A44889; MUID:92332706; PMID:1321168
A;Accession: A44889
A;Molecule type: DNA
A;Residues: 331-364 <VA2>
A;Cross-references: GB:S40235; NID:g251682; PIDN:AAB22562.1; PID:g251683
A;Experimental source: mucosotropic type 13, cervical smear
A;Note: sequence extracted from NCBI backbone (NCBIN:109389, NCBIP:109410)
C;Superfamily: papillomavirus L1 protein
C;Keywords: late protein

  Query Match             90.9%;  Score 50;  DB 1;  Length 499;
  Best Local Similarity   88.9%;  Pred. No. 0.29;
  Matches    8;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              ||||| |||
Db        317 ICWGNHLFV 325


RESULT 13
P1WL11
L1 protein - human papillomavirus type 11
C;Species: human papillomavirus type 11
C;Date: 13-Aug-1986 #sequence_revision 13-Aug-1986 #text_change 16-Jul-1999
C;Accession: A03639
R;Dartmann, K.; Schwarz, E.; Gissmann, L.; zur Hausen, H.
Virology 151, 124-130, 1986
A;Title: The nucleotide sequence and genome organization of human papilloma virus type 1
A;Reference number: A94338; MUID:86181601; PMID:3008427
A;Accession: A03639
A;Molecule type: DNA
A;Residues: 1-501 <DAR>
A;Cross-references: GB:M14119; NID:g333026; PIDN:AAA46935.1; PID:g496201
C;Superfamily: papillomavirus L1 protein
C;Keywords: late protein

  Query Match             90.9%;  Score 50;  DB 1;  Length 501;
  Best Local Similarity   88.9%;  Pred. No. 0.29;
  Matches    8;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              ||||| |||
Db        320 ICWGNHLFV 328


RESULT 14
P1WLR1
L1 protein - rhesus papillomavirus (type 1)
C;Species: rhesus papillomavirus
C;Date: 31-Dec-1991 #sequence_revision 31-Dec-1991 #text_change 27-Jan-1995
C;Accession: H38503
R;Ostrow, R.S.; LaBresh, K.V.; Faras, A.J.
Virology 181, 424-429, 1991
A;Title: Characterization of the complete RhPV 1 genomic sequence and an integration loc
A;Reference number: A38503; MUID:91135018; PMID:1847267
A;Accession: H38503
A;Status: translation not shown
A;Molecule type: DNA
A;Residues: 1-354 <OST>
A;Cross-references: EMBL:M37717
C;Superfamily: papillomavirus L1 protein
C;Keywords: late protein

  Query Match             89.1%;  Score 49;  DB 1;  Length 354;
  Best Local Similarity   77.8%;  Pred. No. 0.31;
  Matches    7;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              ||||||:|:
Db        173 ICWGNQVFL 181


RESULT 15
S36531
L1 protein - human papillomavirus type 53
C;Species: human papillomavirus type 53
C;Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 26-Aug-1999
C;Accession: S36531
R;Delius, H.; Hofmann, B.
submitted to the EMBL Data Library, August 1993
A;Description: Primer-directed sequencing of human papillomavirus types.
A;Reference number: S36469
A;Accession: S36531
A;Molecule type: DNA
A;Residues: 1-499 <DEL>
A;Cross-references: EMBL:X74482; NID:g397046; PIDN:CAA52595.1; PID:g397052
C;Superfamily: papillomavirus L1 protein
C;Keywords: late protein

  Query Match             89.1%;  Score 49;  DB 2;  Length 499;
  Best Local Similarity   88.9%;  Pred. No. 0.43;
  Matches    8;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              ||| |||||
Db        321 ICWNNQLFV 329


Search completed: July 17, 2003, 19:46:52
Job time : 40 secs
```

GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: July 17, 2003, 19:42:31 ; Search time 24 Seconds
(without alignments)
15.554 Million cell updates/sec

Title: US-09-980-177A-12
Perfect score: 55
Sequence: 1 ICWGNQLFV 9

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 112892 seqs, 41476328 residues

Total number of hits satisfying chosen parameters: 112892

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_40:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	55	100.0	152	1	VL1_HPV69	P50826 human papil
2	55	100.0	500	1	VL1_HPV44	P50816 human papil
3	55	100.0	500	1	VL1_HPV6A	P03100 human papil
4	55	100.0	501	1	VL1_HPV55	P50820 human papil
5	55	100.0	503	1	VL1_HPV26	P36735 human papil
6	55	100.0	504	1	VL1_HPV31	P17388 human papil
7	55	100.0	524	1	VL1_HPV58	P26535 human papil
8	55	100.0	529	1	VL1_HPV52	Q05138 human papil
9	55	100.0	531	1	VL1_HPV16	P03101 human papil
10	55	100.0	534	1	VL1_HPV56	P36743 human papil
11	54	98.2	508	1	VL1_HPV60	P50821 human papil
12	53	96.4	150	1	VL1_HPV67	P50825 human papil
13	52	94.5	499	1	VL1_HPV33	P06416 human papil
14	52	94.5	502	1	VL1_HPV42	P27233 human papil
15	52	94.5	503	1	VL1_HPV66	Q80961 human papil
16	52	94.5	508	1	VL1_HPV30	Q02515 human papil
17	51	92.7	513	1	VL1_HPV48	P50817 human papil
18	50	90.9	499	1	VL1_HPV13	Q02273 human papil
19	50	90.9	501	1	VL1_HPV11	P04012 human papil
20	49	89.1	497	1	VL1_HPV54	P50819 human papil
21	49	89.1	499	1	VL1_HPV53	Q05113 human papil
22	49	89.1	501	1	VL1_RHPV1	P22163 rhesus papi
23	49	89.1	502	1	VL1_HPV28	P50791 human papil
24	49	89.1	502	1	VL1_HPV35	P27232 human papil
25	49	89.1	502	1	VL1_PCPV1	Q02274 pygmy chimp
26	49	89.1	503	1	VL1_HPV32	P36737 human papil
27	49	89.1	515	1	VL1_HPV50	P50818 human papil
28	49	89.1	531	1	VL1_HPV10	P36732 human papil
29	49	89.1	532	1	VL1_HPV03	P36731 human papil
30	48	87.3	504	1	VL1_HPV51	P26536 human papil
31	48	87.3	512	1	VL1_HPV24	P50790 human papil
32	48	87.3	516	1	VL1_HPV04	Q07860 human papil
33	48	87.3	516	1	VL1_HPV65	Q07874 human papil
34	47	85.5	539	1	VL1_HPV45	P36741 human papil
35	46	83.6	504	1	VL1_HPV70	P50793 human papil
36	46	83.6	508	1	VL1_HPV1A	P03099 human papil
37	46	83.6	509	1	VL1_HPV49	P36742 human papil
38	46	83.6	516	1	VL1_HPV20	P50786 human papil
39	46	83.6	517	1	VL1_HPV25	Q02051 human papil
40	46	83.6	518	1	VL1_HPV14	P36734 human papil
41	46	83.6	518	1	VL1_HPV21	P50787 human papil
42	46	83.6	546	1	VL1_HPV19	Q02050 human papil
43	46	83.6	568	1	VL1_HPV18	P06794 human papil
44	45	81.8	152	1	VL1_HPV43	P50815 human papil
45	45	81.8	501	1	VL1_PAPVE	P11326 european el

ALIGNMENTS

RESULT 1
VL1_HPV69
ID VL1_HPV69 STANDARD; PRT; 152 AA.
AC P50826;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 01-OCT-1996 (Rel. 34, Last annotation update)
DE Major capsid protein L1 (Fragment).
GN L1.
OS Human papillomavirus type 69.
OC Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC Papillomavirus.
OX NCBI_TaxID=37121;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=95052821; PubMed=7963696;
RA Bernard H.U., Chan S.Y., Manos M.M., Ong C.K., Villa L.L.,
RA Delius H., Peyton C.L., Bauer H.M., Wheeler C.M.;
RT "Identification and assessment of known and novel human
RT papillomaviruses by polymerase chain reaction amplification,
RT restriction fragment length polymorphisms, nucleotide sequence, and
RT phylogenetic algorithms.";
RL J. Infect. Dis. 170:1077-1085(1994).
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CC ---
DR EMBL; U12497; AAA67241.1; -.
DR InterPro; IPR002210; PV_capsid_L1.
DR Pfam; PF00500; late_protein_L1; 1.
DR ProDom; PD000544; PV_capsid_L1; 1.
KW Coat protein; Late protein.
FT NON_TER 1 1
FT NON_TER 152 152
SQ SEQUENCE 152 AA; 17269 MW; 8F7A927A8560656F CRC64;

Query Match 100.0%; Score 55; DB 1; Length 152;
Best Local Similarity 100.0%; Pred. No. 0.0064;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ICWGNQLFV 9
|||||||||
Db 8 ICWGNQLFV 16

RESULT 2
VL1_HPV44
ID VL1_HPV44 STANDARD; PRT; 500 AA.
AC P50816; Q80919;
DT 01-OCT-1996 (Rel. 34, Created)
DT 15-JUL-1998 (Rel. 36, Last sequence update)

```
DT   15-JUL-1998 (Rel. 36, Last annotation update)
DE   Major capsid protein L1.
GN   L1.
OS   Human papillomavirus type 44.
OC   Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC   Papillomavirus.
OX   NCBI_TaxID=10592;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Delius H.;
RL   Submitted (OCT-1995) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE OF 312-462 FROM N.A.
RX   MEDLINE=95052821; PubMed=7963696;
RA   Bernard H.U., Chan S.Y., Manos M.M., Ong C.K., Villa L.L.,
RA   Delius H., Peyton C.L., Bauer H.M., Wheeler C.M.;
RT   "Identification and assessment of known and novel human
RT   papillomaviruses by polymerase chain reaction amplification,
RT   restriction fragment length polymorphisms, nucleotide sequence, and
RT   phylogenetic algorithms.";
RL   J. Infect. Dis. 170:1077-1085(1994).
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CC   -----------------------------------------------------------------------
DR   EMBL; U31788; AAA79463.1; -.
DR   EMBL; U12493; AAA67237.1; -.
DR   InterPro; IPR002210; PV_capsid_L1.
DR   Pfam; PF00500; late_protein_L1; 1.
DR   PRINTS; PR00865; HPVCAPSIDL1.
DR   ProDom; PD000544; PV_capsid_L1; 1.
KW   Coat protein; Late protein.
SQ   SEQUENCE   500 AA;  55849 MW;  277A44B7CAA421F9 CRC64;

  Query Match             100.0%;  Score 55;  DB 1;  Length 500;
  Best Local Similarity   100.0%;  Pred. No. 0.018;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        319 ICWGNQLFV 327


RESULT 3
VL1_HPV6A
ID   VL1_HPV6A      STANDARD;      PRT;   500 AA.
AC   P03100;
DT   21-JUL-1986 (Rel. 01, Created)
DT   21-JUL-1986 (Rel. 01, Last sequence update)
DT   15-JUL-1998 (Rel. 36, Last annotation update)
DE   Major capsid protein L1.
GN   L1.
OS   Human papillomavirus type 6a, and
OS   Human papillomavirus type 6b.
OC   Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC   Papillomavirus.
OX   NCBI_TaxID=37122, 10600;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   SPECIES=Human papillomavirus type 6a;
RX   MEDLINE=95297152; PubMed=7778283;
RA   Hofmann K.J., Cook J.C., Joyce J.G., Brown D.R., Schultz L.D.,
RA   George H.A., Rosolowsky M., Fife K.H., Jansen K.U.;
RT   "Sequence determination of human papillomavirus type 6a and assembly
RT   of virus-like particles in Saccharomyces cerevisiae.";
RL   Virology 209:506-518(1995).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   SPECIES=Human papillomavirus type 6b;
RX   MEDLINE=84131949; PubMed=6321162;
RA   Schwarz E., Durst M., Demankowski C., Lattermann O., Zech R.,
RA   Wolfsperger E., Suhai S., Zur Hausen H.;
RT   "DNA sequence and genome organization of genital human papillomavirus
RT   type 6b.";
RL   EMBO J. 2:2341-2348(1983).
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CC   -----------------------------------------------------------------------
DR   EMBL; L41216; AAA74218.1; -.
DR   EMBL; X00203; CAA25026.1; -.
DR   PIR; A03638; P1WL6.
DR   InterPro; IPR002210; PV_capsid_L1.
DR   Pfam; PF00500; late_protein_L1; 1.
DR   PRINTS; PR00865; HPVCAPSIDL1.
DR   ProDom; PD000544; PV_capsid_L1; 1.
KW   Coat protein; Late protein.
SQ   SEQUENCE   500 AA;  55597 MW;  B6168D0F76A287F7 CRC64;

  Query Match             100.0%;  Score 55;  DB 1;  Length 500;
  Best Local Similarity   100.0%;  Pred. No. 0.018;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        319 ICWGNQLFV 327


RESULT 4
VL1_HPV55
ID   VL1_HPV55      STANDARD;      PRT;   501 AA.
AC   P50820; Q80940;
DT   01-OCT-1996 (Rel. 34, Created)
DT   15-JUL-1998 (Rel. 36, Last sequence update)
DT   15-JUL-1998 (Rel. 36, Last annotation update)
DE   Major capsid protein L1.
GN   L1.
OS   Human papillomavirus type 55.
OC   Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC   Papillomavirus.
OX   NCBI_TaxID=37114;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Delius H.;
RL   Submitted (OCT-1995) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE OF 312-462 FROM N.A.
RX   MEDLINE=95052821; PubMed=7963696;
RA   Bernard H.U., Chan S.Y., Manos M.M., Ong C.K., Villa L.L.,
RA   Delius H., Peyton C.L., Bauer H.M., Wheeler C.M.;
RT   "Identification and assessment of known and novel human
RT   papillomaviruses by polymerase chain reaction amplification,
RT   restriction fragment length polymorphisms, nucleotide sequence, and
RT   phylogenetic algorithms.";
RL   J. Infect. Dis. 170:1077-1085(1994).
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CC   -----------------------------------------------------------------------
DR   EMBL; U31791; AAA79484.1; -.
DR   EMBL; U12494; AAA67238.1; -.
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DR   InterPro; IPR002210; PV_capsid_L1.
DR   Pfam; PF00500; late_protein_L1; 1.
DR   PRINTS; PR00865; HPVCAPSIDL1.
DR   ProDom; PD000544; PV_capsid_L1; 1.
KW   Coat protein; Late protein.
SQ   SEQUENCE   501 AA;  55787 MW;  0DBC4D47E552E968 CRC64;

  Query Match             100.0%;  Score 55;  DB 1;  Length 501;
  Best Local Similarity   100.0%;  Pred. No. 0.018;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        319 ICWGNQLFV 327


RESULT 5
VL1_HPV26
ID   VL1_HPV26      STANDARD;      PRT;   503 AA.
AC   P36735;
DT   01-JUN-1994 (Rel. 29, Created)
DT   01-JUN-1994 (Rel. 29, Last sequence update)
DT   01-OCT-1996 (Rel. 34, Last annotation update)
DE   Major capsid protein L1.
GN   L1.
OS   Human papillomavirus type 26.
OC   Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC   Papillomavirus.
OX   NCBI_TaxID=31549;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=94265501; PubMed=8205838;
RA   Delius H., Hofmann B.;
RT   "Primer-directed sequencing of human papillomavirus types.";
RL   Curr. Top. Microbiol. Immunol. 186:13-31(1994).
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DR   EMBL; X74472; CAA52535.1; -.
DR   PIR; S36549; S36549.
DR   InterPro; IPR002210; PV_capsid_L1.
DR   Pfam; PF00500; late_protein_L1; 1.
DR   PRINTS; PR00865; HPVCAPSIDL1.
DR   ProDom; PD000544; PV_capsid_L1; 1.
KW   Coat protein; Late protein.
SQ   SEQUENCE   503 AA;  56328 MW;  A0706D12F425BE80 CRC64;

  Query Match             100.0%;  Score 55;  DB 1;  Length 503;
  Best Local Similarity   100.0%;  Pred. No. 0.018;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        323 ICWGNQLFV 331


RESULT 6
VL1_HPV31
ID   VL1_HPV31      STANDARD;      PRT;   504 AA.
AC   P17388;
DT   01-AUG-1990 (Rel. 15, Created)
DT   01-AUG-1990 (Rel. 15, Last sequence update)
DT   01-OCT-1996 (Rel. 34, Last annotation update)
DE   Major capsid protein L1.
GN   L1.
OS   Human papillomavirus type 31.
OC   Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC   Papillomavirus.
OX   NCBI_TaxID=10585;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=89299478; PubMed=2545036;
RA   Goldsborough M.D., Disilvestre D., Temple G.F., Lorincz A.T.;
RT   "Nucleotide sequence of human papillomavirus type 31: a cervical
RT   neoplasia-associated virus.";
RL   Virology 171:306-311(1989).
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CC   ---------------------------------------------------------------------
DR   EMBL; J04353; AAA46956.1; -.
DR   PIR; G32444; P1WL31.
DR   InterPro; IPR002210; PV_capsid_L1.
DR   Pfam; PF00500; late_protein_L1; 1.
DR   PRINTS; PR00865; HPVCAPSIDL1.
DR   ProDom; PD000544; PV_capsid_L1; 1.
KW   Coat protein; Late protein.
SQ   SEQUENCE   504 AA;  56352 MW;  B45A306A6B3AB9D2 CRC64;

  Query Match             100.0%;  Score 55;  DB 1;  Length 504;
  Best Local Similarity   100.0%;  Pred. No. 0.018;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        324 ICWGNQLFV 332


RESULT 7
VL1_HPV58
ID   VL1_HPV58      STANDARD;      PRT;   524 AA.
AC   P26535;
DT   01-AUG-1992 (Rel. 23, Created)
DT   01-AUG-1992 (Rel. 23, Last sequence update)
DT   01-OCT-1996 (Rel. 34, Last annotation update)
DE   Major capsid protein L1.
GN   L1.
OS   Human papillomavirus type 58.
OC   Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC   Papillomavirus.
OX   NCBI_TaxID=10598;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=92024102; PubMed=1656594;
RA   Kirii Y., Iwamoto S., Matsukura T.;
RT   "Human papillomavirus type 58 DNA sequence.";
RL   Virology 185:424-427(1991).
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CC   ---------------------------------------------------------------------
DR   EMBL; D90400; BAA31851.1; -.
DR   PIR; G36779; P1WL58.
DR   InterPro; IPR002210; PV_capsid_L1.
DR   Pfam; PF00500; late_protein_L1; 1.
DR   PRINTS; PR00865; HPVCAPSIDL1.
DR   ProDom; PD000544; PV_capsid_L1; 1.
KW   Coat protein; Late protein.
SQ   SEQUENCE   524 AA;  59038 MW;  5DEC95E2878A26DF CRC64;
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  Query Match             100.0%;  Score 55;  DB 1;  Length 524;
  Best Local Similarity   100.0%;  Pred. No. 0.019;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        349 ICWGNQLFV 357


RESULT 8
VL1_HPV52
ID   VL1_HPV52      STANDARD;      PRT;   529 AA.
AC   Q05138;
DT   01-FEB-1994 (Rel. 28, Created)
DT   01-JUN-1994 (Rel. 29, Last sequence update)
DT   01-OCT-1996 (Rel. 34, Last annotation update)
DE   Major capsid protein L1.
GN   L1.
OS   Human papillomavirus type 52.
OC   Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC   Papillomavirus.
OX   NCBI_TaxID=10618;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=94265501; PubMed=8205838;
RA   Delius H., Hofmann B.;
RT   "Primer-directed sequencing of human papillomavirus types.";
RL   Curr. Top. Microbiol. Immunol. 186:13-31(1994).
RN   [2]
RP   SEQUENCE OF 333-376 FROM N.A.
RX   MEDLINE=92407963; PubMed=1326639;
RA   Chan S.Y., Bernard H.U., Ong C.K., Chan S.P., Birgit H., Delius H.;
RT   "Phylogenetic analysis of 48 papillomavirus types and 28 subtypes and
RT   variants: a showcase for the molecular evolution of DNA viruses.";
RL   J. Virol. 66:5714-5725(1992).
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; X74481; CAA52590.1; -.
DR   EMBL; M96297; AAA47036.1; -.
DR   PIR; S36578; S36578.
DR   InterPro; IPR002210; PV_capsid_L1.
DR   Pfam; PF00500; late_protein_L1; 1.
DR   PRINTS; PR00865; HPVCAPSIDL1.
DR   ProDom; PD000544; PV_capsid_L1; 1.
KW   Coat protein; Late protein.
SQ   SEQUENCE   529 AA;  59469 MW;  77F7DB5CA9664C53 CRC64;

  Query Match             100.0%;  Score 55;  DB 1;  Length 529;
  Best Local Similarity   100.0%;  Pred. No. 0.019;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        354 ICWGNQLFV 362


RESULT 9
VL1_HPV16
ID   VL1_HPV16      STANDARD;      PRT;   531 AA.
AC   P03101;
DT   21-JUL-1986 (Rel. 01, Created)
DT   21-JUL-1986 (Rel. 01, Last sequence update)
DT   01-OCT-1996 (Rel. 34, Last annotation update)
DE   Major capsid protein L1.
GN   L1.
OS   Human papillomavirus type 16.
OC   Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC   Papillomavirus.
OX   NCBI_TaxID=10581;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=85246220; PubMed=2990099;
RA   Seedorf K., Krammer G., Durst M., Suhai S., Rowekamp W.G.;
RT   "Human papillomavirus type 16 DNA sequence.";
RL   Virology 145:181-185(1985).
RN   [2]
RP   SEQUENCE OF 328-371 FROM N.A.
RX   MEDLINE=92407963; PubMed=1326639;
RA   Chan S.Y., Bernard H.U., Ong C.K., Chan S.P., Birgit H., Delius H.;
RT   "Phylogenetic analysis of 48 papillomavirus types and 28 subtypes and
RT   variants: a showcase for the molecular evolution of DNA viruses.";
RL   J. Virol. 66:5714-5725(1992).
CC   -!- MISCELLANEOUS: HPV16, IN COMPARISON TO HPV TYPES 6 AND 11, IS MORE
CC       OFTEN ASSOCIATED WITH MALIGNANT GENITAL CANCERS IN HUMANS.
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CC   ---------------------------------------------------------------------
DR   EMBL; K02718; AAA46943.1; -.
DR   EMBL; M96285; AAA47024.1; -.
DR   EMBL; A06331; CAA00546.1; -.
DR   PIR; A03640; P1WLHS.
DR   InterPro; IPR002210; PV_capsid_L1.
DR   Pfam; PF00500; late_protein_L1; 1.
DR   PRINTS; PR00865; HPVCAPSIDL1.
DR   ProDom; PD000544; PV_capsid_L1; 1.
KW   Coat protein; Late protein.
SQ   SEQUENCE   531 AA;  59554 MW;  5B3402587093B380 CRC64;

  Query Match             100.0%;  Score 55;  DB 1;  Length 531;
  Best Local Similarity   100.0%;  Pred. No. 0.019;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        349 ICWGNQLFV 357


RESULT 10
VL1_HPV56
ID   VL1_HPV56      STANDARD;      PRT;   534 AA.
AC   P36743;
DT   01-JUN-1994 (Rel. 29, Created)
DT   01-JUN-1994 (Rel. 29, Last sequence update)
DT   01-OCT-1996 (Rel. 34, Last annotation update)
DE   Major capsid protein L1.
GN   L1.
OS   Human papillomavirus type 56.
OC   Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC   Papillomavirus.
OX   NCBI_TaxID=10596;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=94265501; PubMed=8205838;
RA   Delius H., Hofmann B.;
RT   "Primer-directed sequencing of human papillomavirus types.";
RL   Curr. Top. Microbiol. Immunol. 186:13-31(1994).
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CC   ---------------------------------------------------------------------
DR   EMBL; X74483; CAA52600.1; -.
DR   PIR; S36583; S36583.
DR   InterPro; IPR002210; PV_capsid_L1.
DR   Pfam; PF00500; late_protein_L1; 1.
DR   PRINTS; PR00865; HPVCAPSIDL1.
DR   ProDom; PD000544; PV_capsid_L1; 1.
KW   Coat protein; Late protein.
SQ   SEQUENCE   534 AA;  60160 MW;  2ED3A965D1B1EC96 CRC64;

  Query Match             100.0%;  Score 55;  DB 1;  Length 534;
  Best Local Similarity   100.0%;  Pred. No. 0.019;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db        357 ICWGNQLFV 365


RESULT 11
VL1_HPV60
ID   VL1_HPV60      STANDARD;      PRT;   508 AA.
AC   P50821; Q80947;
DT   01-OCT-1996 (Rel. 34, Created)
DT   15-JUL-1998 (Rel. 36, Last sequence update)
DT   15-JUL-1998 (Rel. 36, Last annotation update)
DE   Major capsid protein L1.
GN   L1.
OS   Human papillomavirus type 60.
OC   Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC   Papillomavirus.
OX   NCBI_TaxID=40540;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Delius H.;
RL   Submitted (OCT-1995) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE OF 372-467 FROM N.A.
RA   Chan S.Y., Delius H., Halpern A.L., Bernard H.U.;
RL   Submitted (JUL-1995) to the EMBL/GenBank/DDBJ databases.
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CC   ---------------------------------------------------------------------
DR   EMBL; U31792; AAA79491.1; -.
DR   EMBL; U21876; AAA92837.1; -.
DR   InterPro; IPR002210; PV_capsid_L1.
DR   Pfam; PF00500; late_protein_L1; 1.
DR   PRINTS; PR00865; HPVCAPSIDL1.
DR   ProDom; PD000544; PV_capsid_L1; 1.
KW   Coat protein; Late protein.
SQ   SEQUENCE   508 AA;  57827 MW;  3149549895534D00 CRC64;

  Query Match             98.2%;  Score 54;  DB 1;  Length 508;
  Best Local Similarity   88.9%;  Pred. No. 0.028;
  Matches    8;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||:
Db        328 ICWGNQLFI 336


RESULT 12
VL1_HPV67
ID   VL1_HPV67      STANDARD;      PRT;   150 AA.
AC   P50825;
DT   01-OCT-1996 (Rel. 34, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   01-OCT-1996 (Rel. 34, Last annotation update)
DE   Major capsid protein L1 (Fragment).
GN   L1.
OS   Human papillomavirus type 67.
OC   Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC   Papillomavirus.
OX   NCBI_TaxID=37120;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=95052821; PubMed=7963696;
RA   Bernard H.U., Chan S.Y., Manos M.M., Ong C.K., Villa L.L.,
RA   Delius H., Peyton C.L., Bauer H.M., Wheeler C.M.;
RT   "Identification and assessment of known and novel human
RT   papillomaviruses by polymerase chain reaction amplification,
RT   restriction fragment length polymorphisms, nucleotide sequence, and
RT   phylogenetic algorithms.";
RL   J. Infect. Dis. 170:1077-1085(1994).
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CC   ---------------------------------------------------------------------
DR   EMBL; U12492; AAA67236.1; -.
DR   InterPro; IPR002210; PV_capsid_L1.
DR   Pfam; PF00500; late_protein_L1; 1.
DR   ProDom; PD000544; PV_capsid_L1; 1.
KW   Coat protein; Late protein.
FT   NON_TER       1      1
FT   NON_TER     150    150
SQ   SEQUENCE   150 AA;  17374 MW;  6ACBB50A47C5EB5B CRC64;

  Query Match             96.4%;  Score 53;  DB 1;  Length 150;
  Best Local Similarity   88.9%;  Pred. No. 0.014;
  Matches    8;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              ||||||:||
Db          8 ICWGNQIFV 16


RESULT 13
VL1_HPV33
ID   VL1_HPV33      STANDARD;      PRT;   499 AA.
AC   P06416;
DT   01-JAN-1988 (Rel. 06, Created)
DT   01-JAN-1988 (Rel. 06, Last sequence update)
DT   01-OCT-1996 (Rel. 34, Last annotation update)
DE   Major capsid protein L1.
GN   L1.
OS   Human papillomavirus type 33.
OC   Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC   Papillomavirus.
OX   NCBI_TaxID=10586;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=86200464; PubMed=3009902;
RA   Cole S.T., Streeck R.E.;
RT   "Genome organization and nucleotide sequence of human papillomavirus
RT   type 33, which is associated with cervical cancer.";
RL   J. Virol. 58:991-995(1986).
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CC   ---------------------------------------------------------------------
DR   EMBL; M12732; AAA46964.1; -.
DR   PIR; A03641; P1WL33.
DR   InterPro; IPR002210; PV_capsid_L1.
DR   Pfam; PF00500; late_protein_L1; 1.
DR   PRINTS; PR00865; HPVCAPSIDL1.
DR   ProDom; PD000544; PV_capsid_L1; 1.
KW   Coat protein; Late protein.
SQ   SEQUENCE   499 AA;  55902 MW;  283474DA993DE01D CRC64;

  Query Match             94.5%;  Score 52;  DB 1;  Length 499;
  Best Local Similarity   88.9%;  Pred. No. 0.061;
  Matches    8;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              ||||||:||
Db        323 ICWGNQVFV 331


RESULT 14
VL1_HPV42
ID   VL1_HPV42      STANDARD;      PRT;   502 AA.
AC   P27233;
DT   01-AUG-1992 (Rel. 23, Created)
DT   01-AUG-1992 (Rel. 23, Last sequence update)
DT   01-OCT-1996 (Rel. 34, Last annotation update)
DE   Major capsid protein L1.
GN   L1.
OS   Human papillomavirus type 42.
OC   Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC   Papillomavirus.
OX   NCBI_TaxID=10590;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=92087479; PubMed=1309278;
RA   Philipp W., Honore N., Sapp M., Cole S.T., Streeck R.E.;
RT   "Human papillomavirus type 42: new sequences, conserved genome
RT   organization.";
RL   Virology 186:331-334(1992).
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CC   ---------------------------------------------------------------------
DR   EMBL; M73236; AAA47048.1; ALT_INIT.
DR   PIR; G39451; P1WL42.
DR   InterPro; IPR002210; PV_capsid_L1.
DR   Pfam; PF00500; late_protein_L1; 1.
DR   PRINTS; PR00865; HPVCAPSIDL1.
DR   ProDom; PD000544; PV_capsid_L1; 1.
KW   Coat protein; Late protein.
SQ   SEQUENCE   502 AA;  56165 MW;  ED8083E650A1EA2E CRC64;

  Query Match             94.5%;  Score 52;  DB 1;  Length 502;
  Best Local Similarity   88.9%;  Pred. No. 0.061;
  Matches    8;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              ||||||||:
Db        323 ICWGNQLFL 331


RESULT 15
VL1_HPV66
ID   VL1_HPV66      STANDARD;      PRT;   503 AA.
AC   Q80961;
DT   15-JUL-1998 (Rel. 36, Created)
DT   15-JUL-1998 (Rel. 36, Last sequence update)
DT   15-JUL-1998 (Rel. 36, Last annotation update)
DE   Major capsid protein L1.
GN   L1.
OS   Human papillomavirus type 66.
OC   Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC   Papillomavirus.
OX   NCBI_TaxID=37119;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Delius H.;
RL   Submitted (OCT-1995) to the EMBL/GenBank/DDBJ databases.
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CC   ---------------------------------------------------------------------
DR   EMBL; U31794; AAA79505.1; -.
DR   InterPro; IPR002210; PV_capsid_L1.
DR   Pfam; PF00500; late_protein_L1; 1.
DR   PRINTS; PR00865; HPVCAPSIDL1.
DR   ProDom; PD000544; PV_capsid_L1; 1.
KW   Coat protein; Late protein.
SQ   SEQUENCE   503 AA;  56174 MW;  20649CE2E7875BA2 CRC64;

  Query Match             94.5%;  Score 52;  DB 1;  Length 503;
  Best Local Similarity   88.9%;  Pred. No. 0.061;
  Matches    8;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              ||||||:||
Db        322 ICWGNQVFV 330


Search completed: July 17, 2003, 19:43:04
Job time : 25 secs
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GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: July 17, 2003, 19:43:11 ; Search time 45 Seconds
(without alignments)
52.866 Million cell updates/sec

Title: US-09-980-177A-12
Perfect score: 55
Sequence: 1 ICWGNQLFV 9

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1232328 seqs, 264332421 residues

Total number of hits satisfying chosen parameters: 1232328

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Pending_Patents_AA_New:*
1: /cgn2_6/ptodata/1/paa/PCT_NEW_COMB.pep:*
2: /cgn2_6/ptodata/1/paa/PCT_NEW_COMB.pep4:*
3: /cgn2_6/ptodata/1/paa/US06_NEW_COMB.pep:*
4: /cgn2_6/ptodata/1/paa/US06_NEW_COMB.pep4:*
5: /cgn2_6/ptodata/1/paa/US07_NEW_COMB.pep:*
6: /cgn2_6/ptodata/1/paa/US07_NEW_COMB.pep4:*
7: /cgn2_6/ptodata/1/paa/US08_NEW_COMB.pep:*
8: /cgn2_6/ptodata/1/paa/US08_NEW_COMB.pep4:*
9: /cgn2_6/ptodata/1/paa/US09_NEW_COMB.pep:*
10: /cgn2_6/ptodata/1/paa/US09_NEW_COMB.pep4:*
11: /cgn2_6/ptodata/1/paa/US10_NEW_COMB.pep:*
12: /cgn2_6/ptodata/1/paa/US10_NEW_COMB.pep4:*
13: /cgn2_6/ptodata/1/paa/US60_NEW_COMB.pep:*
14: /cgn2_6/ptodata/1/paa/US60_NEW_COMB.pep4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	55	100.0	9	10	US-09-980-177A-12	Sequence 12, Appl
2	55	100.0	10	10	US-09-641-528-2712	Sequence 2712, Ap
3	55	100.0	10	10	US-09-641-528-5468	Sequence 5468, Ap
4	55	100.0	10	10	US-09-641-528-8850	Sequence 8850, Ap
5	55	100.0	10	10	US-09-641-528-24989	Sequence 24989, A
6	55	100.0	10	10	US-09-641-528-27246	Sequence 27246, A
7	55	100.0	10	10	US-09-641-528-29966	Sequence 29966, A
8	55	100.0	10	10	US-09-641-528A-2712	Sequence 2712, Ap
9	55	100.0	10	10	US-09-641-528A-5468	Sequence 5468, Ap
10	55	100.0	10	10	US-09-641-528A-8850	Sequence 8850, Ap
11	55	100.0	10	10	US-09-641-528A-24989	Sequence 24989, A
12	55	100.0	10	10	US-09-641-528A-27246	Sequence 27246, A
13	55	100.0	10	10	US-09-641-528A-29966	Sequence 29966, A
14	55	100.0	11	10	US-09-641-528-2713	Sequence 2713, Ap
15	55	100.0	11	10	US-09-641-528-5469	Sequence 5469, Ap
16	55	100.0	11	10	US-09-641-528-8851	Sequence 8851, Ap
17	55	100.0	11	10	US-09-641-528A-2713	Sequence 2713, Ap
18	55	100.0	11	10	US-09-641-528A-5469	Sequence 5469, Ap
19	55	100.0	11	10	US-09-641-528A-8851	Sequence 8851, Ap
20	55	100.0	20	10	US-09-980-177A-55	Sequence 55, Appl
21	55	100.0	500	12	US-10-149-136-8	Sequence 8, Appli
22	55	100.0	500	12	US-10-149-136-17	Sequence 17, Appl
23	55	100.0	504	12	US-10-149-136-47	Sequence 47, Appl
24	55	100.0	505	2	PCT-US03-04473-6	Sequence 6, Appli
25	55	100.0	505	2	PCT-US03-04516-6	Sequence 6, Appli
26	55	100.0	505	2	PCT-US03-04480-6	Sequence 6, Appli
27	55	100.0	505	2	PCT-US03-04474-6	Sequence 6, Appli
28	55	100.0	505	2	PCT-US03-04516A-6	Sequence 6, Appli
29	55	100.0	505	2	PCT-US03-04480A-6	Sequence 6, Appli
30	55	100.0	505	2	PCT-US03-04473A-6	Sequence 6, Appli
31	55	100.0	505	2	PCT-US03-04474A-6	Sequence 6, Appli
32	55	100.0	505	12	US-10-367-095-6	Sequence 6, Appli
33	55	100.0	505	12	US-10-367-043-6	Sequence 6, Appli
34	55	100.0	505	12	US-10-367-367-6	Sequence 6, Appli
35	55	100.0	505	12	US-10-368-046-6	Sequence 6, Appli
36	55	100.0	531	12	US-10-149-136-33	Sequence 33, Appl
37	55	100.0	531	12	US-10-301-260A-1	Sequence 1, Appli
38	55	100.0	534	12	US-10-149-136-65	Sequence 65, Appl
39	52	94.5	10	10	US-09-641-528-6818	Sequence 6818, Ap
40	52	94.5	10	10	US-09-641-528-28313	Sequence 28313, A
41	52	94.5	10	10	US-09-641-528A-6818	Sequence 6818, Ap
42	52	94.5	10	10	US-09-641-528A-28313	Sequence 28313, A
43	52	94.5	11	10	US-09-641-528-6819	Sequence 6819, Ap
44	52	94.5	11	10	US-09-641-528A-6819	Sequence 6819, Ap
45	52	94.5	499	12	US-10-149-136-60	Sequence 60, Appl

ALIGNMENTS

RESULT 1
US-09-980-177A-12
; Sequence 12, Application US/09980177A
; GENERAL INFORMATION:
; APPLICANT: Jochmus, Ingrid
; APPLICANT: Nieland, John
; TITLE OF INVENTION: Cytotoxic T-Cell Epitopes of the
; TITLE OF INVENTION: Papilloma Virus L1-Protein and Use Thereof in Diagnosis and
; TITLE OF INVENTION: Therapy
; FILE REFERENCE: 50125/036001
; CURRENT APPLICATION NUMBER: US/09/980,177A
; CURRENT FILING DATE: 2001-11-29
; PRIOR APPLICATION NUMBER: PCT/EP00/05006
; PRIOR FILING DATE: 2000-05-31
; PRIOR APPLICATION NUMBER: DE 19925199.1
; PRIOR FILING DATE: 1999-06-01
; NUMBER OF SEQ ID NOS: 77
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 12
; LENGTH: 9
; TYPE: PRT
; ORGANISM: Human papillomavirus type 16
US-09-980-177A-12

Query Match 100.0%; Score 55; DB 10; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.1e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ICWGNQLFV 9
|||||||||
Db 1 ICWGNQLFV 9

RESULT 2
US-09-641-528-2712
; Sequence 2712, Application US/09641528
; GENERAL INFORMATION:
; APPLICANT: Sette, Alessandro
; APPLICANT: Sidney, John
; APPLICANT: Southwood, Scott
; APPLICANT: Chesnut, Robert
; APPLICANT: Celis, Esteban

; APPLICANT: Grey, Howard
; TITLE OF INVENTION: INDUCING CELLULAR IMMUNE RESPONSES TO HUMAN PAPILLOMAVIRUS
; TITLE OF INVENTION: USING PEPTIDE AND NUCLEIC ACID COMPOSITIONS
; FILE REFERENCE: 2060.0100001
; CURRENT APPLICATION NUMBER: US/09/641,528
; CURRENT FILING DATE: 2000-08-15
; PRIOR APPLICATION NUMBER: US 60/172,705
; PRIOR FILING DATE: 1999-12-10
; NUMBER OF SEQ ID NOS: 51504
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 2712
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Peptide Derived from Human Papillomavirus
US-09-641-528-2712

Query Match 100.0%; Score 55; DB 10; Length 10;
Best Local Similarity 100.0%; Pred. No. 0.015;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ICWGNQLFV 9
|||||||||
Db 2 ICWGNQLFV 10

RESULT 3
US-09-641-528-5468
; Sequence 5468, Application US/09641528
; GENERAL INFORMATION:
; APPLICANT: Sette, Alessandro
; APPLICANT: Sidney, John
; APPLICANT: Southwood, Scott
; APPLICANT: Chesnut, Robert
; APPLICANT: Celis, Esteban
; APPLICANT: Grey, Howard
; TITLE OF INVENTION: INDUCING CELLULAR IMMUNE RESPONSES TO HUMAN PAPILLOMAVIRUS
; TITLE OF INVENTION: USING PEPTIDE AND NUCLEIC ACID COMPOSITIONS
; FILE REFERENCE: 2060.0100001
; CURRENT APPLICATION NUMBER: US/09/641,528
; CURRENT FILING DATE: 2000-08-15
; PRIOR APPLICATION NUMBER: US 60/172,705
; PRIOR FILING DATE: 1999-12-10
; NUMBER OF SEQ ID NOS: 51504
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 5468
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Peptide Derived from Human Papillomavirus
US-09-641-528-5468

Query Match 100.0%; Score 55; DB 10; Length 10;
Best Local Similarity 100.0%; Pred. No. 0.015;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ICWGNQLFV 9
|||||||||
Db 2 ICWGNQLFV 10

RESULT 4
US-09-641-528-8850
; Sequence 8850, Application US/09641528
; GENERAL INFORMATION:
; APPLICANT: Sette, Alessandro
; APPLICANT: Sidney, John
; APPLICANT: Southwood, Scott
; APPLICANT: Chesnut, Robert
; APPLICANT: Celis, Esteban
; APPLICANT: Grey, Howard
; TITLE OF INVENTION: INDUCING CELLULAR IMMUNE RESPONSES TO HUMAN PAPILLOMAVIRUS
; TITLE OF INVENTION: USING PEPTIDE AND NUCLEIC ACID COMPOSITIONS
; FILE REFERENCE: 2060.0100001
; CURRENT APPLICATION NUMBER: US/09/641,528
; CURRENT FILING DATE: 2000-08-15
; PRIOR APPLICATION NUMBER: US 60/172,705
; PRIOR FILING DATE: 1999-12-10
; NUMBER OF SEQ ID NOS: 51504
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 8850
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Peptide Derived from Human Papillomavirus
US-09-641-528-8850

Query Match 100.0%; Score 55; DB 10; Length 10;
Best Local Similarity 100.0%; Pred. No. 0.015;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ICWGNQLFV 9
|||||||||
Db 2 ICWGNQLFV 10

RESULT 5
US-09-641-528-24989
; Sequence 24989, Application US/09641528
; GENERAL INFORMATION:
; APPLICANT: Sette, Alessandro
; APPLICANT: Sidney, John
; APPLICANT: Southwood, Scott
; APPLICANT: Chesnut, Robert
; APPLICANT: Celis, Esteban
; APPLICANT: Grey, Howard
; TITLE OF INVENTION: INDUCING CELLULAR IMMUNE RESPONSES TO HUMAN PAPILLOMAVIRUS
; TITLE OF INVENTION: USING PEPTIDE AND NUCLEIC ACID COMPOSITIONS
; FILE REFERENCE: 2060.0100001
; CURRENT APPLICATION NUMBER: US/09/641,528
; CURRENT FILING DATE: 2000-08-15
; PRIOR APPLICATION NUMBER: US 60/172,705
; PRIOR FILING DATE: 1999-12-10
; NUMBER OF SEQ ID NOS: 51504
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 24989
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Peptide Derived from Human Papillomavirus
US-09-641-528-24989

Query Match 100.0%; Score 55; DB 10; Length 10;
Best Local Similarity 100.0%; Pred. No. 0.015;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ICWGNQLFV 9
|||||||||
Db 2 ICWGNQLFV 10

RESULT 6
US-09-641-528-27246
; Sequence 27246, Application US/09641528
; GENERAL INFORMATION:
; APPLICANT: Sette, Alessandro
; APPLICANT: Sidney, John
; APPLICANT: Southwood, Scott
; APPLICANT: Chesnut, Robert
; APPLICANT: Celis, Esteban
; APPLICANT: Grey, Howard
; TITLE OF INVENTION: INDUCING CELLULAR IMMUNE RESPONSES TO HUMAN PAPILLOMAVIRUS

```
;  TITLE OF INVENTION:  USING PEPTIDE AND NUCLEIC ACID COMPOSITIONS
;  FILE REFERENCE: 2060.0100001
;  CURRENT APPLICATION NUMBER: US/09/641,528
;  CURRENT FILING DATE:  2000-08-15
;  PRIOR APPLICATION NUMBER: US 60/172,705
;  PRIOR FILING DATE: 1999-12-10
;  NUMBER OF SEQ ID NOS: 51504
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 27246
;   LENGTH: 10
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Peptide Derived from Human Papillomavirus
US-09-641-528-27246

  Query Match             100.0%;  Score 55;  DB 10;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.015;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db          2 ICWGNQLFV 10


RESULT 7
US-09-641-528-29966
; Sequence 29966, Application US/09641528
; GENERAL INFORMATION:
;  APPLICANT: Sette, Alessandro
;  APPLICANT:  Sidney, John
;  APPLICANT:  Southwood, Scott
;  APPLICANT:  Chesnut, Robert
;  APPLICANT:  Celis, Esteban
;  APPLICANT:  Grey, Howard
;  TITLE OF INVENTION: INDUCING CELLULAR IMMUNE RESPONSES TO HUMAN PAPILLOMAVIRUS
;  TITLE OF INVENTION:  USING PEPTIDE AND NUCLEIC ACID COMPOSITIONS
;  FILE REFERENCE: 2060.0100001
;  CURRENT APPLICATION NUMBER: US/09/641,528
;  CURRENT FILING DATE:  2000-08-15
;  PRIOR APPLICATION NUMBER: US 60/172,705
;  PRIOR FILING DATE: 1999-12-10
;  NUMBER OF SEQ ID NOS: 51504
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 29966
;   LENGTH: 10
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Peptide Derived from Human Papillomavirus
US-09-641-528-29966

  Query Match             100.0%;  Score 55;  DB 10;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.015;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db          2 ICWGNQLFV 10


RESULT 8
US-09-641-528A-2712
; Sequence 2712, Application US/09641528A
; GENERAL INFORMATION:
;  APPLICANT: Sette, Alessandro
;  APPLICANT:  Sidney, John
;  APPLICANT:  Southwood, Scott
;  APPLICANT:  Chesnut, Robert
;  APPLICANT:  Celis, Esteban
;  APPLICANT:  Grey, Howard
;  TITLE OF INVENTION: INDUCING CELLULAR IMMUNE RESPONSES TO HUMAN PAPILLOMAVIRUS
;  TITLE OF INVENTION:  USING PEPTIDE AND NUCLEIC ACID COMPOSITIONS
;  FILE REFERENCE: 2060.0100001
;  CURRENT APPLICATION NUMBER: US/09/641,528A
;  CURRENT FILING DATE:  2000-08-15
;  PRIOR APPLICATION NUMBER: US 60/172,705
;  PRIOR FILING DATE: 1999-12-10
;  NUMBER OF SEQ ID NOS: 51504
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 2712
;   LENGTH: 10
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Peptide Derived from Human Papillomavirus
US-09-641-528A-2712

  Query Match             100.0%;  Score 55;  DB 10;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.015;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db          2 ICWGNQLFV 10


RESULT 9
US-09-641-528A-5468
; Sequence 5468, Application US/09641528A
; GENERAL INFORMATION:
;  APPLICANT: Sette, Alessandro
;  APPLICANT:  Sidney, John
;  APPLICANT:  Southwood, Scott
;  APPLICANT:  Chesnut, Robert
;  APPLICANT:  Celis, Esteban
;  APPLICANT:  Grey, Howard
;  TITLE OF INVENTION: INDUCING CELLULAR IMMUNE RESPONSES TO HUMAN PAPILLOMAVIRUS
;  TITLE OF INVENTION:  USING PEPTIDE AND NUCLEIC ACID COMPOSITIONS
;  FILE REFERENCE: 2060.0100001
;  CURRENT APPLICATION NUMBER: US/09/641,528A
;  CURRENT FILING DATE:  2000-08-15
;  PRIOR APPLICATION NUMBER: US 60/172,705
;  PRIOR FILING DATE: 1999-12-10
;  NUMBER OF SEQ ID NOS: 51504
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 5468
;   LENGTH: 10
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Peptide Derived from Human Papillomavirus
US-09-641-528A-5468

  Query Match             100.0%;  Score 55;  DB 10;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.015;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db          2 ICWGNQLFV 10


RESULT 10
US-09-641-528A-8850
; Sequence 8850, Application US/09641528A
; GENERAL INFORMATION:
;  APPLICANT: Sette, Alessandro
;  APPLICANT:  Sidney, John
;  APPLICANT:  Southwood, Scott
;  APPLICANT:  Chesnut, Robert
;  APPLICANT:  Celis, Esteban
;  APPLICANT:  Grey, Howard
;  TITLE OF INVENTION: INDUCING CELLULAR IMMUNE RESPONSES TO HUMAN PAPILLOMAVIRUS
;  TITLE OF INVENTION:  USING PEPTIDE AND NUCLEIC ACID COMPOSITIONS
;  FILE REFERENCE: 2060.0100001
```

```
,  CURRENT APPLICATION NUMBER: US/09/641,528A
,  CURRENT FILING DATE:  2000-08-15
,  PRIOR APPLICATION NUMBER: US 60/172,705
,  PRIOR FILING DATE: 1999-12-10
,  NUMBER OF SEQ ID NOS: 51504
,  SOFTWARE: FastSEQ for Windows Version 4.0
, SEQ ID NO 8850
,   LENGTH: 10
,   TYPE: PRT
,   ORGANISM: Artificial Sequence
,   FEATURE:
,   OTHER INFORMATION: Peptide Derived from Human Papillomavirus
US-09-641-528A-8850

  Query Match             100.0%;  Score 55;  DB 10;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.015;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db          2 ICWGNQLFV 10


RESULT 11
US-09-641-528A-24989
; Sequence 24989, Application US/09641528A
; GENERAL INFORMATION:
;  APPLICANT: Sette, Alessandro
;  APPLICANT:  Sidney, John
;  APPLICANT:  Southwood, Scott
;  APPLICANT:  Chesnut, Robert
;  APPLICANT:  Celis, Esteban
;  APPLICANT:  Grey, Howard
;  TITLE OF INVENTION: INDUCING CELLULAR IMMUNE RESPONSES TO HUMAN PAPILLOMAVIRUS
;  TITLE OF INVENTION:  USING PEPTIDE AND NUCLEIC ACID COMPOSITIONS
;  FILE REFERENCE: 2060.0100001
;  CURRENT APPLICATION NUMBER: US/09/641,528A
;  CURRENT FILING DATE:  2000-08-15
;  PRIOR APPLICATION NUMBER: US 60/172,705
;  PRIOR FILING DATE: 1999-12-10
;  NUMBER OF SEQ ID NOS: 51504
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 24989
;   LENGTH: 10
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Peptide Derived from Human Papillomavirus
US-09-641-528A-24989

  Query Match             100.0%;  Score 55;  DB 10;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.015;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db          2 ICWGNQLFV 10


RESULT 12
US-09-641-528A-27246
; Sequence 27246, Application US/09641528A
; GENERAL INFORMATION:
;  APPLICANT: Sette, Alessandro
;  APPLICANT:  Sidney, John
;  APPLICANT:  Southwood, Scott
;  APPLICANT:  Chesnut, Robert
;  APPLICANT:  Celis, Esteban
;  APPLICANT:  Grey, Howard
;  TITLE OF INVENTION: INDUCING CELLULAR IMMUNE RESPONSES TO HUMAN PAPILLOMAVIRUS
;  TITLE OF INVENTION:  USING PEPTIDE AND NUCLEIC ACID COMPOSITIONS
,  FILE REFERENCE: 2060.0100001
,  CURRENT APPLICATION NUMBER: US/09/641,528A
;  CURRENT FILING DATE:  2000-08-15
;  PRIOR APPLICATION NUMBER: US 60/172,705
;  PRIOR FILING DATE: 1999-12-10
;  NUMBER OF SEQ ID NOS: 51504
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 27246
;   LENGTH: 10
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Peptide Derived from Human Papillomavirus
US-09-641-528A-27246

  Query Match             100.0%;  Score 55;  DB 10;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.015;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db          2 ICWGNQLFV 10


RESULT 13
US-09-641-528A-29966
; Sequence 29966, Application US/09641528A
; GENERAL INFORMATION:
;  APPLICANT: Sette, Alessandro
;  APPLICANT:  Sidney, John
;  APPLICANT:  Southwood, Scott
;  APPLICANT:  Chesnut, Robert
;  APPLICANT:  Celis, Esteban
;  APPLICANT:  Grey, Howard
;  TITLE OF INVENTION: INDUCING CELLULAR IMMUNE RESPONSES TO HUMAN PAPILLOMAVIRUS
;  TITLE OF INVENTION:  USING PEPTIDE AND NUCLEIC ACID COMPOSITIONS
;  FILE REFERENCE: 2060.0100001
;  CURRENT APPLICATION NUMBER: US/09/641,528A
;  CURRENT FILING DATE:  2000-08-15
;  PRIOR APPLICATION NUMBER: US 60/172,705
;  PRIOR FILING DATE: 1999-12-10
;  NUMBER OF SEQ ID NOS: 51504
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 29966
;   LENGTH: 10
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Peptide Derived from Human Papillomavirus
US-09-641-528A-29966

  Query Match             100.0%;  Score 55;  DB 10;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.015;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0,

Qy          1 ICWGNQLFV 9
              |||||||||
Db          2 ICWGNQLFV 10


RESULT 14
US-09-641-528-2713
; Sequence 2713, Application US/09641528
; GENERAL INFORMATION:
;  APPLICANT: Sette, Alessandro
;  APPLICANT:  Sidney, John
;  APPLICANT:  Southwood, Scott
;  APPLICANT:  Chesnut, Robert
;  APPLICANT:  Celis, Esteban
;  APPLICANT:  Grey, Howard
;  TITLE OF INVENTION: INDUCING CELLULAR IMMUNE RESPONSES TO HUMAN PAPILLOMAVIRUS
;  TITLE OF INVENTION:  USING PEPTIDE AND NUCLEIC ACID COMPOSITIONS
;  FILE REFERENCE: 2060.0100001
;  CURRENT APPLICATION NUMBER: US/09/641,528
;  CURRENT FILING DATE:  2000-08-15
```

```
;  PRIOR APPLICATION NUMBER: US 60/172,705
;  PRIOR FILING DATE: 1999-12-10
;  NUMBER OF SEQ ID NOS: 51504
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 2713
;   LENGTH: 11
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Peptide Derived from Human Papillomavirus
US-09-641-528-2713

  Query Match             100.0%;  Score 55;  DB 10;  Length 11;
  Best Local Similarity   100.0%;  Pred. No. 0.016;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db          2 ICWGNQLFV 10


RESULT 15
US-09-641-528-5469
; Sequence 5469, Application US/09641528
; GENERAL INFORMATION:
;  APPLICANT: Sette, Alessandro
;  APPLICANT:  Sidney, John
;  APPLICANT:  Southwood, Scott
;  APPLICANT:  Chesnut, Robert
;  APPLICANT:  Celis, Esteban
;  APPLICANT:  Grey, Howard
;  TITLE OF INVENTION: INDUCING CELLULAR IMMUNE RESPONSES TO HUMAN PAPILLOMAVIRUS
;  TITLE OF INVENTION:  USING PEPTIDE AND NUCLEIC ACID COMPOSITIONS
;  FILE REFERENCE: 2060.0100001
;  CURRENT APPLICATION NUMBER: US/09/641,528
;  CURRENT FILING DATE:  2000-08-15
;  PRIOR APPLICATION NUMBER: US 60/172,705
;  PRIOR FILING DATE: 1999-12-10
;  NUMBER OF SEQ ID NOS: 51504
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 5469
;   LENGTH: 11
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Peptide Derived from Human Papillomavirus
US-09-641-528-5469

  Query Match             100.0%;  Score 55;  DB 10;  Length 11;
  Best Local Similarity   100.0%;  Pred. No. 0.016;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db          2 ICWGNQLFV 10


Search completed: July 17, 2003, 19:47:44
Job time : 46 secs
```

GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: July 17, 2003, 19:42:36 ; Search time 77 Seconds
(without alignments)
24.083 Million cell updates/sec

Title: US-09-980-177A-12
Perfect score: 55
Sequence: 1 ICWGNQLFV 9

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 671580 seqs, 206047115 residues

Total number of hits satisfying chosen parameters: 671580

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SPTREMBL_21:*
1: sp_archea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*
15: sp_rvirus:*
16: sp_bacteriap:*
17: sp_archeap:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	55	100.0	44	12	Q84315	Q84315 human papil
2	55	100.0	44	12	O73442	O73442 human papil
3	55	100.0	44	12	O73434	O73434 human papil
4	55	100.0	149	12	Q81054	Q81054 human papil
5	55	100.0	149	12	Q81055	Q81055 human papil
6	55	100.0	149	12	Q81056	Q81056 human papil
7	55	100.0	149	12	Q81057	Q81057 human papil
8	55	100.0	149	12	Q81058	Q81058 human papil
9	55	100.0	149	12	Q81059	Q81059 human papil
10	55	100.0	149	12	O11399	O11399 rhesus papi
11	55	100.0	150	12	Q81060	Q81060 human papil
12	55	100.0	150	12	Q81061	Q81061 human papil
13	55	100.0	150	12	Q81062	Q81062 human papil
14	55	100.0	150	12	Q81063	Q81063 human papil
15	55	100.0	150	12	Q81064	Q81064 human papil
16	55	100.0	150	12	Q81065	Q81065 human papil
17	55	100.0	150	12	O11398	O11398 rhesus papi
18	55	100.0	151	12	O12339	O12339 human papil
19	55	100.0	151	12	O12340	O12340 human papil
20	55	100.0	151	12	O12341	O12341 human papil
21	55	100.0	151	12	O12342	O12342 human papil
22	55	100.0	151	12	Q84233	Q84233 human papil
23	55	100.0	494	12	Q80996	Q80996 human papil
24	55	100.0	494	12	Q80997	Q80997 human papil
25	55	100.0	494	12	Q80998	Q80998 human papil
26	55	100.0	494	12	Q80999	Q80999 human papil
27	55	100.0	494	12	Q81000	Q81000 human papil
28	55	100.0	494	12	Q81001	Q81001 human papil
29	55	100.0	494	12	Q81002	Q81002 human papil
30	55	100.0	494	12	Q81003	Q81003 human papil
31	55	100.0	494	12	Q81004	Q81004 human papil
32	55	100.0	494	12	Q81005	Q81005 human papil
33	55	100.0	494	12	Q81006	Q81006 human papil
34	55	100.0	494	12	Q81007	Q81007 human papil
35	55	100.0	494	12	Q81008	Q81008 human papil
36	55	100.0	494	12	Q81009	Q81009 human papil
37	55	100.0	494	12	Q81010	Q81010 human papil
38	55	100.0	494	12	Q81011	Q81011 human papil
39	55	100.0	494	12	Q81012	Q81012 human papil
40	55	100.0	494	12	Q90204	Q90204 human papil
41	55	100.0	495	12	O12343	O12343 human papil
42	55	100.0	500	12	Q99A88	Q99a88 human papil
43	55	100.0	500	12	Q9WBR5	Q9wbr5 human papil
44	55	100.0	500	12	Q9WBR6	Q9wbr6 human papil
45	55	100.0	500	12	Q9WBR7	Q9wbr7 human papil

ALIGNMENTS

RESULT 1
Q84315
ID Q84315 PRELIMINARY; PRT; 44 AA.
AC Q84315;
DT 01-NOV-1996 (TrEMBLrel. 01, Created)
DT 01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT 01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE L1 (Fragment).
GN L1.
OS Human papillomavirus type 56.
OC Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC Papillomavirus.
OX NCBI_TaxID=10596;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=92407963; PubMed=1326639;
RA Chan S.-Y., Bernard H.-U., Ong C.-K., Chan S.-P., Birgit H.,
RA Delius H.;
RT "Phylogenetic analysis of 48 papillomavirus types and 28 subtypes and
RT variants: A showcase for the molecular evolution of DNA viruses.";
RL J. Virol. 66:5714-5725(1992).
DR EMBL; M96299; AAA47038.1; -.
DR InterPro; IPR002210; PV_capsid_L1.
DR Pfam; PF00500; late_protein_L1; 1.
DR ProDom; PD000544; PV_capsid_L1; 1.
FT NON_TER 1 1
SQ SEQUENCE 44 AA; 5028 MW; 3C70DFF29F5B1B48 CRC64;

Query Match 100.0%; Score 55; DB 12; Length 44;
Best Local Similarity 100.0%; Pred. No. 0.0035;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy          1 ICWGNQLFV 9
              |||||||||
Db         22 ICWGNQLFV 30
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RESULT 2
O73442

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ID   O73442      PRELIMINARY;      PRT;    44 AA.
AC   O73442;
DT   01-AUG-1998 (TrEMBLrel. 07, Created)
DT   01-AUG-1998 (TrEMBLrel. 07, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   Capsid protein L1 (Fragment).
GN   L1.
OS   Human papillomavirus.
OC   Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC   Papillomavirus.
OX   NCBI_TaxID=10566;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=HAN 831;
RA   Menzo S., Trozzi C., Clementi M.;
RL   Submitted (MAR-1997) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; Y12212; CAA72885.1; -.
DR   InterPro; IPR002210; PV_capsid_L1.
DR   Pfam; PF00500; late_protein_L1; 1.
DR   ProDom; PD000544; PV_capsid_L1; 1.
FT   NON_TER       1      1
FT   NON_TER      44     44
SQ   SEQUENCE   44 AA;  5018 MW;  B374F0B541507017 CRC64;

  Query Match             100.0%;  Score 55;  DB 12;  Length 44;
  Best Local Similarity   100.0%;  Pred. No. 0.0035;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db          1 ICWGNQLFV 9


RESULT 3
O73434
ID   O73434      PRELIMINARY;      PRT;    44 AA.
AC   O73434;
DT   01-AUG-1998 (TrEMBLrel. 07, Created)
DT   01-JAN-1999 (TrEMBLrel. 09, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   Capsid protein L1 (Fragment).
GN   L1.
OS   Human papillomavirus type 6.
OC   Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC   Papillomavirus.
OX   NCBI_TaxID=31552;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=HAN 1711;
RA   Menzo S., Trozzi C., Clementi M.;
RL   Submitted (DEC-1998) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; Y12209; CAA72882.1; -.
DR   InterPro; IPR002210; PV_capsid_L1.
DR   Pfam; PF00500; late_protein_L1; 1.
DR   ProDom; PD000544; PV_capsid_L1; 1.
FT   NON_TER       1      1
FT   NON_TER      44     44
SQ   SEQUENCE   44 AA;  5026 MW;  900B395BB2006438 CRC64;

  Query Match             100.0%;  Score 55;  DB 12;  Length 44;
  Best Local Similarity   100.0%;  Pred. No. 0.0035;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db          1 ICWGNQLFV 9


RESULT 4
Q81054
ID   Q81054      PRELIMINARY;      PRT;   149 AA.
AC   Q81054;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   Major capsid protein L1 (Fragment).
GN   L1.
OS   Human papillomavirus type 52.
OC   Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC   Papillomavirus.
OX   NCBI_TaxID=10618;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=IS705;
RX   MEDLINE=96186743; PubMed=8627792;
RA   Stewart A.C., Eriksson A.M., Manos M.M., Munoz N., Bosch F.X.,
RA   Peto J., Wheeler C.M.;
RT   "Intratype variation in 12 human papillomavirus types: a worldwide
RT   perspective.";
RL   J. Virol. 70:3127-3136(1996).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=IS705;
RA   Farmer A.D.;
RL   Submitted (JAN-1996) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; U45918; AAB19153.1; -.
DR   InterPro; IPR002210; PV_capsid_L1.
DR   Pfam; PF00500; late_protein_L1; 1.
DR   PRINTS; PR00865; HPVCAPSIDL1.
DR   ProDom; PD000544; PV_capsid_L1; 1.
FT   NON_TER       1      1
FT   NON_TER     149    149
SQ   SEQUENCE   149 AA;  17162 MW;  292758243B4B6A6C CRC64;

  Query Match             100.0%;  Score 55;  DB 12;  Length 149;
  Best Local Similarity   100.0%;  Pred. No. 0.012;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db          8 ICWGNQLFV 16


RESULT 5
Q81055
ID   Q81055      PRELIMINARY;      PRT;   149 AA.
AC   Q81055;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   Major capsid protein L1 (Fragment).
GN   L1.
OS   Human papillomavirus type 52.
OC   Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC   Papillomavirus.
OX   NCBI_TaxID=10618;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=IS121;
RX   MEDLINE=96186743; PubMed=8627792;
RA   Stewart A.C., Eriksson A.M., Manos M.M., Munoz N., Bosch F.X.,
RA   Peto J., Wheeler C.M.;
RT   "Intratype variation in 12 human papillomavirus types: a worldwide
RT   perspective.";
RL   J. Virol. 70:3127-3136(1996).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=IS121;
RA   Farmer A.D.;
RL   Submitted (JAN-1996) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; U45919; AAB19154.1; -.
DR   InterPro; IPR002210; PV_capsid_L1.
DR   Pfam; PF00500; late_protein_L1; 1.
DR   PRINTS; PR00865; HPVCAPSIDL1.
DR   ProDom; PD000544; PV_capsid_L1; 1.
FT   NON_TER       1      1
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FT   NON_TER     149    149
SQ   SEQUENCE   149 AA;  17162 MW;  292758243B4B6A6C CRC64;

  Query Match             100.0%;  Score 55;  DB 12;  Length 149;
  Best Local Similarity   100.0%;  Pred. No. 0.012;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db          8 ICWGNQLFV 16


RESULT 6
Q81056
ID   Q81056      PRELIMINARY;      PRT;   149 AA.
AC   Q81056;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   Major capsid protein L1 (Fragment).
GN   L1.
OS   Human papillomavirus type 52.
OC   Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC   Papillomavirus.
OX   NCBI_TaxID=10618;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=IS370;
RX   MEDLINE=96186743; PubMed=8627792;
RA   Stewart A.C., Eriksson A.M., Manos M.M., Munoz N., Bosch F.X.,
RA   Peto J., Wheeler C.M.;
RT   "Intratype variation in 12 human papillomavirus types: a worldwide
RT   perspective.";
RL   J. Virol. 70:3127-3136(1996).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=IS370;
RA   Farmer A.D.;
RL   Submitted (JAN-1996) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; U45920; AAB19155.1; -.
DR   InterPro; IPR002210; PV_capsid_L1.
DR   Pfam; PF00500; late_protein_L1; 1.
DR   PRINTS; PR00865; HPVCAPSIDL1.
DR   ProDom; PD000544; PV_capsid_L1; 1.
FT   NON_TER       1      1
FT   NON_TER     149    149
SQ   SEQUENCE   149 AA;  17162 MW;  292758243B4B6A6C CRC64;

  Query Match             100.0%;  Score 55;  DB 12;  Length 149;
  Best Local Similarity   100.0%;  Pred. No. 0.012;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db          8 ICWGNQLFV 16


RESULT 7
Q81057
ID   Q81057      PRELIMINARY;      PRT;   149 AA.
AC   Q81057;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   Major capsid protein L1 (Fragment).
GN   L1.
OS   Human papillomavirus type 52.
OC   Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC   Papillomavirus.
OX   NCBI_TaxID=10618;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=IS1001;
RX   MEDLINE=96186743; PubMed=8627792;
RA   Stewart A.C., Eriksson A.M., Manos M.M., Munoz N., Bosch F.X.,
RA   Peto J., Wheeler C.M.;
RT   "Intratype variation in 12 human papillomavirus types: a worldwide
RT   perspective.";
RL   J. Virol. 70:3127-3136(1996).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=IS1001;
RA   Farmer A.D.;
RL   Submitted (JAN-1996) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; U45921; AAB19156.1; -.
DR   InterPro; IPR002210; PV_capsid_L1.
DR   Pfam; PF00500; late_protein_L1; 1.
DR   PRINTS; PR00865; HPVCAPSIDL1.
DR   ProDom; PD000544; PV_capsid_L1; 1.
FT   NON_TER       1      1
FT   NON_TER     149    149
SQ   SEQUENCE   149 AA;  17162 MW;  292758243B4B6A6C CRC64;

  Query Match             100.0%;  Score 55;  DB 12;  Length 149;
  Best Local Similarity   100.0%;  Pred. No. 0.012;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db          8 ICWGNQLFV 16


RESULT 8
Q81058
ID   Q81058      PRELIMINARY;      PRT;   149 AA.
AC   Q81058;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   Major capsid protein L1 (Fragment).
GN   L1.
OS   Human papillomavirus type 52.
OC   Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC   Papillomavirus.
OX   NCBI_TaxID=10618;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=IS1015;
RX   MEDLINE=96186743; PubMed=8627792;
RA   Stewart A.C., Eriksson A.M., Manos M.M., Munoz N., Bosch F.X.,
RA   Peto J., Wheeler C.M.;
RT   "Intratype variation in 12 human papillomavirus types: a worldwide
RT   perspective.";
RL   J. Virol. 70:3127-3136(1996).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=IS1015;
RA   Farmer A.D.;
RL   Submitted (JAN-1996) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; U45922; AAB19157.1; -.
DR   InterPro; IPR002210; PV_capsid_L1.
DR   Pfam; PF00500; late_protein_L1; 1.
DR   PRINTS; PR00865; HPVCAPSIDL1.
DR   ProDom; PD000544; PV_capsid_L1; 1.
FT   NON_TER       1      1
FT   NON_TER     149    149
SQ   SEQUENCE   149 AA;  17162 MW;  292758243B4B6A6C CRC64;

  Query Match             100.0%;  Score 55;  DB 12;  Length 149;
  Best Local Similarity   100.0%;  Pred. No. 0.012;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db          8 ICWGNQLFV 16
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RESULT 9
Q81059
ID   Q81059      PRELIMINARY;      PRT;   149 AA.
AC   Q81059;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   Major capsid protein L1 (Fragment).
GN   L1.
OS   Human papillomavirus type 52.
OC   Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC   Papillomavirus.
OX   NCBI_TaxID=10618;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=IS464;
RX   MEDLINE=96186743; PubMed=8627792;
RA   Stewart A.C., Eriksson A.M., Manos M.M., Munoz N., Bosch F.X.,
RA   Peto J., Wheeler C.M.;
RT   "Intratype variation in 12 human papillomavirus types: a worldwide
RT   perspective.";
RL   J. Virol. 70:3127-3136(1996).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=IS464;
RA   Farmer A.D.;
RL   Submitted (JAN-1996) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; U45923; AAB19158.1; -.
DR   InterPro; IPR002210; PV_capsid_L1.
DR   Pfam; PF00500; late_protein_L1; 1.
DR   PRINTS; PR00865; HPVCAPSIDL1.
DR   ProDom; PD000544; PV_capsid_L1; 1.
FT   NON_TER       1       1
FT   NON_TER     149     149
SQ   SEQUENCE   149 AA;  17177 MW;  F61CD34191F6C448 CRC64;

  Query Match             100.0%;  Score 55;  DB 12;  Length 149;
  Best Local Similarity   100.0%;  Pred. No. 0.012;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db          8 ICWGNQLFV 16


RESULT 10
O11399
ID   O11399      PRELIMINARY;      PRT;   149 AA.
AC   O11399;
DT   01-JUL-1997 (TrEMBLrel. 04, Created)
DT   01-JUL-1997 (TrEMBLrel. 04, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   Rhesus monkey papillomavirus strain RhPV-k L1 (Fragment).
GN   L1.
OS   Rhesus papillomavirus type 1 (Rhpv 1).
OC   Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC   Papillomavirus.
OX   NCBI_TaxID=10570;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=RHESUS MONKEY PAPILLOMAVIRUS TYPE K;
RA   Chan S.-Y., Bernard H.U., Ratteree M., Birkeback T.A., Faras A.J.,
RA   Ostrow R.S.;
RT   "Genomic diversity and evolution of papillomaviruses in rhesus
RT   monkeys.";
RL   J. Virol. 0:0-0(1997).
DR   EMBL; U89666; AAB63854.1; -.
DR   InterPro; IPR002210; PV_capsid_L1.
DR   Pfam; PF00500; late_protein_L1; 1.
DR   PRINTS; PR00865; HPVCAPSIDL1.
DR   ProDom; PD000544; PV_capsid_L1; 1.
FT   NON_TER       1       1
FT   NON_TER     149     149
SQ   SEQUENCE   149 AA;  17163 MW;  398D45568FC00265 CRC64;

  Query Match             100.0%;  Score 55;  DB 12;  Length 149;
  Best Local Similarity   100.0%;  Pred. No. 0.012;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db          8 ICWGNQLFV 16


RESULT 11
Q81060
ID   Q81060      PRELIMINARY;      PRT;   150 AA.
AC   Q81060;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   Major capsid protein L1 (Fragment).
GN   L1.
OS   Human papillomavirus type 58.
OC   Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC   Papillomavirus.
OX   NCBI_TaxID=10598;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=IS068;
RX   MEDLINE=96186743; PubMed=8627792;
RA   Stewart A.C., Eriksson A.M., Manos M.M., Munoz N., Bosch F.X.,
RA   Peto J., Wheeler C.M.;
RT   "Intratype variation in 12 human papillomavirus types: a worldwide
RT   perspective.";
RL   J. Virol. 70:3127-3136(1996).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=IS068;
RA   Farmer A.D.;
RL   Submitted (JAN-1996) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; U45924; AAB19159.1; -.
DR   InterPro; IPR002210; PV_capsid_L1.
DR   Pfam; PF00500; late_protein_L1; 1.
DR   PRINTS; PR00865; HPVCAPSIDL1.
DR   ProDom; PD000544; PV_capsid_L1; 1.
FT   NON_TER       1       1
FT   NON_TER     150     150
SQ   SEQUENCE   150 AA;  17360 MW;  50378344223B1DBC CRC64;

  Query Match             100.0%;  Score 55;  DB 12;  Length 150;
  Best Local Similarity   100.0%;  Pred. No. 0.012;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db          8 ICWGNQLFV 16


RESULT 12
Q81061
ID   Q81061      PRELIMINARY;      PRT;   150 AA.
AC   Q81061;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   Major capsid protein L1 (Fragment).
GN   L1.
OS   Human papillomavirus type 58.
OC   Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC   Papillomavirus.
OX   NCBI_TaxID=10598;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=IS573;
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RX   MEDLINE=96186743; PubMed=8627792;
RA   Stewart A.C., Eriksson A.M., Manos M.M., Munoz N., Bosch F.X.,
RA   Peto J., Wheeler C.M.;
RT   "Intratype variation in 12 human papillomavirus types: a worldwide
RT   perspective.";
RL   J. Virol. 70:3127-3136(1996).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=IS573;
RA   Farmer A.D.;
RL   Submitted (JAN-1996) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; U45925; AAB19160.1; -.
DR   InterPro; IPR002210; PV_capsid_L1.
DR   Pfam; PF00500; late_protein_L1; 1.
DR   PRINTS; PR00865; HPVCAPSIDL1.
DR   ProDom; PD000544; PV_capsid_L1; 1.
FT   NON_TER       1      1
FT   NON_TER     150    150
SQ   SEQUENCE   150 AA;  17360 MW;  50378344223B1DBC CRC64;

  Query Match           100.0%;  Score 55;  DB 12;  Length 150;
  Best Local Similarity   100.0%;  Pred. No. 0.012;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db          8 ICWGNQLFV 16


RESULT 13
Q81062
ID   Q81062      PRELIMINARY;      PRT;   150 AA.
AC   Q81062;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   Major capsid protein L1 (Fragment).
GN   L1.
OS   Human papillomavirus type 58.
OC   Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC   Papillomavirus.
OX   NCBI_TaxID=10598;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=IS1021;
RX   MEDLINE=96186743; PubMed=8627792;
RA   Stewart A.C., Eriksson A.M., Manos M.M., Munoz N., Bosch F.X.,
RA   Peto J., Wheeler C.M.;
RT   "Intratype variation in 12 human papillomavirus types: a worldwide
RT   perspective.";
RL   J. Virol. 70:3127-3136(1996).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=IS1021;
RA   Farmer A.D.;
RL   Submitted (JAN-1996) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; U45926; AAB19161.1; -.
DR   InterPro; IPR002210; PV_capsid_L1.
DR   Pfam; PF00500; late_protein_L1; 1.
DR   PRINTS; PR00865; HPVCAPSIDL1.
DR   ProDom; PD000544; PV_capsid_L1; 1.
FT   NON_TER       1      1
FT   NON_TER     150    150
SQ   SEQUENCE   150 AA;  17346 MW;  AA8B453E9EEB1DA4 CRC64;

  Query Match           100.0%;  Score 55;  DB 12;  Length 150;
  Best Local Similarity   100.0%;  Pred. No. 0.012;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db          8 ICWGNQLFV 16


RESULT 14
Q81063
ID   Q81063      PRELIMINARY;      PRT;   150 AA.
AC   Q81063;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   Major capsid protein L1 (Fragment).
GN   L1.
OS   Human papillomavirus type 58.
OC   Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC   Papillomavirus.
OX   NCBI_TaxID=10598;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=IS131;
RX   MEDLINE=96186743; PubMed=8627792;
RA   Stewart A.C., Eriksson A.M., Manos M.M., Munoz N., Bosch F.X.,
RA   Peto J., Wheeler C.M.;
RT   "Intratype variation in 12 human papillomavirus types: a worldwide
RT   perspective.";
RL   J. Virol. 70:3127-3136(1996).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=IS131;
RA   Farmer A.D.;
RL   Submitted (JAN-1996) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; U45927; AAB19162.1; -.
DR   InterPro; IPR002210; PV_capsid_L1.
DR   Pfam; PF00500; late_protein_L1; 1.
DR   PRINTS; PR00865; HPVCAPSIDL1.
DR   ProDom; PD000544; PV_capsid_L1; 1.
FT   NON_TER       1      1
FT   NON_TER     150    150
SQ   SEQUENCE   150 AA;  17360 MW;  D23F29EE8035F352 CRC64;

  Query Match           100.0%;  Score 55;  DB 12;  Length 150;
  Best Local Similarity   100.0%;  Pred. No. 0.012;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db          8 ICWGNQLFV 16


RESULT 15
Q81064
ID   Q81064      PRELIMINARY;      PRT;   150 AA.
AC   Q81064;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   Major capsid protein L1 (Fragment).
GN   L1.
OS   Human papillomavirus type 58.
OC   Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
OC   Papillomavirus.
OX   NCBI_TaxID=10598;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=IS404;
RX   MEDLINE=96186743; PubMed=8627792;
RA   Stewart A.C., Eriksson A.M., Manos M.M., Munoz N., Bosch F.X.,
RA   Peto J., Wheeler C.M.;
RT   "Intratype variation in 12 human papillomavirus types: a worldwide
RT   perspective.";
RL   J. Virol. 70:3127-3136(1996).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=IS404;
RA   Farmer A.D.;
RL   Submitted (JAN-1996) to the EMBL/GenBank/DDBJ databases.
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DR   EMBL; U45928; AAB19163.1; -.
DR   InterPro; IPR002210; PV_capsid_L1.
DR   Pfam; PF00500; late_protein_L1; 1.
DR   PRINTS; PR00865; HPVCAPSIDL1.
DR   ProDom; PD000544; PV_capsid_L1; 1.
FT   NON_TER       1      1
FT   NON_TER     150    150
SQ   SEQUENCE   150 AA;  17346 MW;  2883EF943CE5F34A CRC64;

  Query Match             100.0%;  Score 55;  DB 12;  Length 150;
  Best Local Similarity   100.0%;  Pred. No. 0.012;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ICWGNQLFV 9
              |||||||||
Db          8 ICWGNQLFV 16


Search completed: July 17, 2003, 19:46:06
Job time : 78 secs
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